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NINTH ANNUAL REPORT

OF THE

BOARD OF WATER COMMISSIONERS

OF THE

CITY OF ST. PAUL.

DECEMBER 1, 1886.

ST. PAUL.
"THE PIONEER PRESS COMPANY"
1886.

NINTH ANNUAL REPORT

BOARD OF WATER COMMISSIONERS

CITY OF ST PAUL.

DECEMBER 1, 1888

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OFFICERS

OF THE

CITY WATER WORKS,

DECEMBER 1, 1890.

BOARD OF WATER COMMISSIONERS

J. F. HOYT, *President.*
WM. LINDEKE,
THOMAS GRACE,
P. H. KELLY,
WILLIAM B. DEAN.

JOHN CAULFIELD, *Secretary.*
JOHN B. OVERTON, *Superintendent.*
S. P. FOLSOM, *Attorney.*
MARTIN FEIST, *Engineer of Pumping Station.*
DANIEL CURRY, *Ass't Eng. of Pumping Station.*
W. A. SOMERS, *Engineer.*

NINTH ANNUAL REPORT

OF THE

BOARD OF WATER COMMISSIONERS

OF THE

CITY OF SAINT PAUL.

For the Year Ending November 30, 1890.

OFFICE OF THE BOARD OF WATER COMMISSIONERS,
ST. PAUL, Dec. 1, 1890.

To the Honorable the Mayor and the Common Council of the City of St. Paul,

GENTLEMEN: Herein please find the ninth annual report of the board of water commissioners, being for the year ending Nov. 30, 1890.

Some items of leading interest, taken principally from the papers and reports which follow this, are here noted.

Bonded indebtedness of the city on account of the water works, $2,460,000; annual interest on same, $114,200; water mains laid during the season, 26 miles, 4,085 feet; total of mains now in, 193 miles 1,266 feet; new service connections this year, 1,407; connections last year, 1,818; total in to date, 10,458; meters put in this season, 86; whole number now in use, 440; fire hydrants, 1,748; sprinkling hydrants, 216; gates, 1,707; plumbers granted licenses, 38.

At the high service pumping station 862 tons of coal have been used; 788,087,400 gallons water pumped. Daily average for the year, 2,159,142 gallons. The daily average used in the whole city during the year has been about 8,000,000 gallons. (Equal to eight acres of water, three feet deep.)

A pump of 6,000,000 gallons daily capacity has been contracted for, to be placed at the McCarron lake station.

The five "Cook" or driven wells at Vadnais lake, together with the artesian well there, are yielding about 2,250,000 gallons daily. The first of August the water at rest in these wells stood about two feet above the water in the lake. It now stands a foot below the water in the lake (which has risen considerably since August). The water in the strata that supplies the wells has receded about two feet.

The pump at Baldwin lake does not, so far, meet the contract promises.

Mr. Folsom gives a list of the real property belonging to the city in the care and use of this board, which appears now complete for the first time in any one report —a very proper record.

The rainfall for 1889 was 17 inches; for 1890 it has been 23 inches; the average for 32 years is recorded as a little better than 28 inches. During this time the least precipitation was in 1864, 14.85 inches; the greatest in 1881, 39.16 inches.

A careful review of the very full and comprehensive reports, above referred to, is earnestly asked.

It will be seen that the membership of the board is changing. The name of C. D. Gilfillan does not appear now as formerly.

Mr. Gilfillan, as is well known, was the founder of our water works system, having been for sixteen years the head of the old St. Paul Water Company. He was the first president of this board, and has been continuously a member of it from its organization to the beginning of this year. His old associates here regret the existence of circumstances that induced him to decline a reappointment. He leaves here the imprint of an able and eminently practical man. And it will be worth a great deal to the community if, in the future, this department of the public service shall be governed by his safe and conservative business example and teachings.

Respectfully submitted,

J. F. HOYT,
P. H. KELLY,
THOS. GRACE,
WM. LINDEKE,
WM. B. DEAN.

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The general water receipts, including high and low service and meters, were $168,187.44, an apparent decrease of $20,186.20, but to this should be added $31,615.70 due from the city of St. Paul for water for fire purposes, to June 1st last; and from the receipts for 1889 should be deducted $19,155.25 due from the city for water for fire purposes to June 1, 1888, and which belonged to the receipts for that year, but was not collected until 1889, as explained in my reports for 1888 and 1889, making an actual increase of $30,584.75 over former year, of which $8,829.02 was from high service, $15,270.02 from low service, and $6,485.71 from meter consumers.

The miscellaneous receipts from builders, water carts, hydrant streams for flushing sewers, etc., filling cisterns and for sprinkling streets were $18,913.77, a decrease of $4,384.55.

Extension account is credited with $2,315.23, of which $409.50 was received from the sale of 819 loads of stone taken from the pipe trenches, $95.05 for scrap iron, $132.09 for old brass, $12 for oil barrels, $74.88 from Bohn Manufacturing Co. for putting in pipe for fire purposes, $50 from P. H. Kelly for his proportion for raising Lafayette avenue main, $395.75 from Rt. Rev. John Ireland for expenses lowering main on Summit avenue, caused by change of grade, and $1,066.50 from the city of St. Paul for expenses raising and changing mains on Earl street and Payne avenue, caused by change of grade on those streets, and $76.46 retained and unclaimed on the pay rolls for the year.

Repair account is credited with $74.11, of which $46.33 was received from Kirkland & Starkey and $27.78 from W. Doherty, sewer contractor, for damages to water mains while constructing sewers.

INTEREST, REPAIRS, EXTENSIONS, GENERAL MAINTENANCE, AND OTHER ACCOUNTS.

One hundred and thirteen thousand four hundred and thirty-one dollars and twenty-seven cents has been paid on account of interest on bonds and loans; $3,455.18 for repairs of mains, hydrants and valves, caused principally by change of grade of streets, causing the relaying of mains and resetting of hydrants; $36,082.75 on account of general maintenance, of which $12,977.30 was for maintaining the pumping stations, gate house at Vadnais lake and high service reservoir; $5,778.27 of this amount was for salaries of engineer, fireman and keepers, $6,591.41 for fuel ($3,461.22 for McCarron lake plant, $2,344.53 for Baldwin lake and $785.66 for Vadnais Lake), and $607.62 for machine oil, waste, kerosene oil for lighting, tools and repairs for the three pumping stations, leaving a balance of $23,105.45 for salaries of all officers, employes, office expenses, fuel, stationery and all other expenses necessary for maintaining the works.

Four thousand three hundred and thirty-three dollars and twenty-six cents was paid on meter account, $29,869.79 on connection account for labor, lead pipe, brass goods, tools and stop-cock boxes for street services.

Two hundred and eleven thousand thirteen dollars and sixty-four cents was paid on account of city extension, of which $110,625.50 was for cast iron pipe and specials, $58,969.19 for laying water mains, $10,996 for fire hydrants, $6,319.30

for valves and valve boxes, $6,110.95 for pig lead and hemp packing, $13,937.74 for land purchases and office enlargement and $4,054.96 for tools, blacksmithing and supplies.

Twenty-six thousand twenty-six dollars and twenty-nine cents was paid on account of construction, of which $29.80 was on account of high service reservoir, $4,180.34 for engineering and right of way, $21,419.76 for labor and on account of new pumping stations and canal at Baldwin lake and wells and machinery at pumping station at Vadnais lake, and $396.39 for lumber and other supplies.

All work in laying water mains and putting in service connections has been done by day's work as usual. The pay rolls of all officers and employes for the year amounted to $108,975.64 and the average number of monthly employes has been 246.

CONTRACTS.

Contracts have been let during the year amounting to $163,627.91, all of which have been completed and settled for in full.

On Dec. 1, 1889, there was due McArthur Brothers $1,350.45 balance on the high service reservoir, none of which has been paid, but will be upon the filing of the proper receipts and release by the contractors.

On the same date there was due the Deane Steam Pump Company of Holyoke, Mass., $6,000 for pump, and to McArthur Bros. of St. Paul, the sum of $3,530.48 for pump house and canal at Baldwin lake, none of which has been paid, as the work and machinery have not yet been accepted by the board.

The matter of the settlement with McArthur Brothers on the Baldwin lake contract was referred to S. P. Folsom, your attorney, whose report is on file and to which your attention is respectfully called.

BONDED DEBT.

The bonded debt of the city for water works purposes has been increased during the year by the issue of $100,000 of four (4) per cent bonds.

The present bonded debt is $2,460,000. The annual interest is $114,200, and is paid from the revenue of the works.

The floating debt is $30,000.

FRONTAGE TAX.

There has been collected during the year by the county treasurer $73,079.70, on account of frontage tax, of which $876.38 was for the tax for years 1884, 1885, 1886 and 1887, $4,622.38 for the year 1888, and $67,580.94 for the year 1889, leaving a balance due of $13,005, of which $2,425,70 is for the years 1884, 1885, 1886 and 1887, $1,454.03 for 1888, and $9,125.27 for 1889.

The frontage tax assessment for 1890 has been made and is now in the hands of the county treasurer for collection, amounting to $99,680.96.

METERS.

There are now in use 440 meters, an increase of 86 over last year.

SERVICES.

During the year, 1,407 applications have been made for service connections, of which 336 were on low, or gravity, service, and 1,071 on high service, a decrease of 411 over year 1889.

The total number of applications to date is 10,458, of which 5,057 are on low, and 5,401 on high, service.

There were 2,012 applications when the city purchased the works in 1882.

PLUMBING.

Thirty-eight plumbers were granted licenses during the year, and 2,182 permits were issued to them to do work in connection with the introduction and extension of water services, as against 2,424 in 1889, 1,707 in 1888, 1,610 in 1887, 1,497 in 1886, 1,454 in 1885, and 718 in 1884.

The inspection of all the work has been very satisfactorily performed, and with a few exceptions the plumbers deserve credit for their willingness to comply with the rules and regulations.

CONCLUSION.

I desire to return my thanks to the board and its officers for their uniform kindness, and assistance rendered me in the performance of my duties.

Respectfully submitted,

JOHN CAULFIELD,

Secretary.

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RECEIPTS AND DISBURSEMENTS FOR YEAR ENDING DECEMBER 1, 1890.

RECEIPTS.			
Balance, December 1, 1889			$9,120.09
General water receipts, high service	$45,797.74		
" " low service	79,363.44		
" " meters	43,026.26		
		$168,187.44	
Miscellaneous receipts, builders	$3,570.82		
" " water carts	176.25		
" " flushing sewers and hydrant streams	771.92		
" " filling cisterns	1,471.52		
" " sprinkling streets	12,923.26		
		18,913.77	
Connections — services		30,762.18	
Extension		2,315.23	
Shutting off and turning on water (penalties)		175.00	
Bonds		100,000.00	
Bills payable		105,000.00	
Interest		555.55	
Frontage tax		73,079.70	
Repair		74.11	
			499,062.98
Total receipts			$508,183.07
DISBURSEMENTS.			
General Maintenance —			
Salaries	$18,949.46		
Stationery and printing	1,166.07		
Miscellaneous	640.83		
Labor	6,794.46		
Material	7,791.91		
Stable { Feed	472.08		
Stable { Repairs	267.94		
		$36,082.75	
Connections —			
Labor	$16,553.71		
Pipe	7,816.23		
Brass goods and stop boxes	4,742.29		
Tools and miscellaneous	757.56		
		29,869.79	
Repairs —			
Hydrants { Labor	$2,975.59		
Hydrants { Material	79.47		
Valves { Labor	13.95		
Valves { Material	30.08		
Mains, labor	356.09		
		3,455.18	
Meters —			
Labor	$1,433.12		
Freight and meters	2,900.14		
		4,333.26	
Extensions —			
Pipe and special castings	$110,625.50		
Labor	58,969.19		
Tools and repairs of same	1,473.36		
Advertising	32.18		
Fire hydrants	10,996.00		
Valves	6,319.30		
Lead and hemp packing	6,110.95		
Lumber and material	2,549.42		
Miscellaneous and building account	13,937.74		
		211,013.64	
Construction — New Supply —			
Labor	$10,005.20		
Tools and repairs of same	180.24		
Lumber and material	11,414.56		
Freight	21.23		
Engineering and right of way	4,180.84		
Miscellaneous and building account	194.92		
High service reservoir	29.80		
		26,026.29	
Interest		113,431.27	
Refunded frontage tax		54.05	
Bills payable		75,000.00	
Total disbursements			499,266.23
Balance			$8,916.84

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STATEMENT SHOWING AMOUNT PAID THE CITY TREASURER AND WARRANTS DRAWN AGAINST SAME FROM DEC. 1, 1889, TO DEC. 1, 1890.

1889.				
Dec. 1	Balance in treasury as per last report			$9,120.09
Dec. 11	Cash	$5,000.00		
Dec. 26	Cash	3,000.00		
			$8,000.00	
1890.				
Jan. 2	Cash	$3,000.00		
Jan. 10	Cash	10,000.00		
Jan. 18	Cash	3,000.00		
			16,000.00	
Feb. 1	Cash	$3,000.00		
Feb. 4	Cash	5,000.00		
Feb. 24	Cash	5,000.00		
			13,000.00	
March 1	Cash	$2,000.00		
March 14	Cash	10,000.00		
March 19	Cash	12,000.00		
March 25	Cash from County Treasurer on acct. frontage tax.	4,019.69		
			28,019.69	
April 12	Cash	$79,273.83		
April 22	Cash	5,000.00		
April 25	Cash	3,000.00		
			87,273.83	
May 1	Cash	$8,000.00		
May 10	Cash	25,000.00		
May 21	Cash	6,000.00		
May 27	Cash	3,500.00		
			42,500.00	
June 27	Cash	$6,500.00		
June 28	Cash, proceeds of $100,000 4 per cent bonds	100,555.55		
			107,055.55	
July 9	Cash	$10,000.00		
July 21	Cash from County Treasurer on acct. frontage tax	65,311.37		
			75,311.37	
Aug. 8	Cash	$10,000.00		
Aug. 28	Cash	10,000.00		
			20,000.00	
Sept. 9	Cash	$10,000.00		
Sept. 18	Cash	10,000.00		
Sept. 26	Cash	6,000.00		
			26,000.00	
Oct. 2	Cash	$5,000.00		
Oct. 7	Cash	10,000.00		
Oct. 9	Cash	10,000.00		
Oct. 29	Cash	20,000.00		
			45,000.00	
Nov. 1	Cash	$6,000.00		
Nov. 7	Cash	4,000.00		
Nov. 25	Cash	10,000.00		
Nov. 26	Cash	3,748.64		
			23,748.64	
				491,909.08
	Total			$501,029.17

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BOND ACCOUNT,

Date of Legislative Acts Authorizing Issue of Bonds.	Amount of Bonds Authorized.	Date of Bonds Issued.	When Due.	Amount of Bonds Issued.	Rate.
February 10, 1881..	$600,000	June 1, 1882.....	30 years.....	$350,000	4 per cent
January 26, 1883..	500,000	August 1, 1883.....	30 years.....	150,000	5 " cent
February 21, 1885..	800,000	April 1, 1884.....	25 & 30 years	600,000	5 " cent
January 31, 1887..	200,000	April 1, 1885.....	30 years	400,000	5 " cent
January 31, 1887..	160,000	May 2, 1887.....	30 years.....	200,000	4½ " cent
March 29, 1889.....	300,000	March 1, 1888.....	30 years.....	300,000	4½ " cent
		January 1, 1889.....	30 years.....	100,000	4½ " cent
		January 2, 1889.....	30 years.....	160,000	4½ " cent
		May 1, 1889.....	30 years.....	100,000	4½ " cent
		May 1, 1890.....	30 years.....	100,000	4 " cent
	$2,560,000			$2,460,000	

CONTRACTS MADE BY THE BOARD OF WATER COMMISSIONERS FROM DEC. 1, 1889, TO DEC. 1, 1890.

Date of Contract.	With Whom and For What Purpose.	Amount of Contract.	Amount Paid.	Amount Due.
1890.				
Jan. 7	A. W. Morgan Manufacturing Co., Buffalo, N. Y., valve and stop-cock boxes	$4,452.25	$4,452.25	.....
Jan. 7	R. D. Wood & Co., Philadelphia, Pa., fire hydrants	11,057.25	11,057.25	.....
Jan. 17	James Claffey, St. Paul, Minn., drayage	1,946.36	1,946.36	.....
Jan. 17	H. P. Rugg, St. Paul, Minn., stop cocks	843.13	843.13	.....
Jan. 17	H. Mueller Manufacturing Co., Decatur, Ill., taps	655.78	655.78	.....
Jan. 17	St. Paul Foundry Co., St. Paul, Minn., street sprinkling casings, etc	943.58	943.58	.....
Jan. 17	Galvin Brass & Iron Works, Detroit, Mich., valves	4,698.75	4,698.75	.....
Jan. 19	Shickle, Harrison & Howard Iron Co., St. Louis, Mo., cast iron pipe	110,357.29	110,357.29	.....
Feb. 8	The Oil, Gas & Water Well Drilling Co., St. Paul, well at Vadnais lake	2,439.00	2,439.00	.....
Feb. 26	Babcock & Stevens, St. Paul, Minn., dwelling house at Union Park	1,254.00	1,254.00	.....
March 28	Robinson & Cary Co., St. Paul, Minn., 5,000 lbs. hemp packing	295.91	295.91	.....
April 5	Rogers & Ordway, St. Paul, Minn., pig lead and lead pipe	9,129.64	9,129.64	.....
March 31	Dowling & Ruse, St. Paul, Minn., office addition	4,846.40	4,846.40	.....
May 2	Fenton Metallic Manufacturing Co., Jamestown, N. Y., iron vault furniture	462.00	462.00	.....
May 19	Allan Black, St. Paul, Minn., steam heating, office	928.00	928.00	.....
June 2	Robinson & Cary Co., St. Paul, Minn., engine and boiler	780.00	780.00	.....
July 29	Shadle & Acker Coal Co., St. Paul, Minn., coal	2,556.14	2,556.14	.....
July 30	Northwestern Shot & Lead Co., St. Paul, Minn., lead pipe	2,793.53	2,793.53	.....
Aug. 16	Jilson & Sowden, St. Paul, Minn., engine	625.00	625.00	.....
Aug. 16	Kenny Brothers, St. Paul, Minn., steam boiler, stack, etc	1,440.00	1,440.00	.....
Sept. 1	Robinson & Cary Co., St. Paul, Minn., 1-10 inch centrifugal pump	409.00	409.00	.....
Sept. 23	Robinson & Cary Co., St. Paul, Minn., pig lead	764.90	764.90	.....
		$163,627.91	$163,627.91	.....

CONTRACTS MADE PREVIOUS TO DEC. 1, 1889, AND FOR WHICH FINAL SETTLEMENT HAS NOT BEEN MADE.

Date of Contract.	With Whom and For What Purpose.	Amount Due December, 1889.	Amount Paid.	Amount Due.
1887.				
Dec. 5	McArthur Bros., St. Paul, Minn., balance due on high service reservoir	$1,350.45	.....	$1,350.45
1889.				
Aug. 24	Deane Steam Pump Co., Holyoke, Mass., balance due on pump, boiler, etc	6,000.00	.....	6,000.00
Sept. 16	McArthur Bros., St. Paul, Minn., balance due on canal between Charles and Baldwin lake and pump house at Baldwin lake	3,530.48	.....	3,530.48
		$10,880.93	.....	$10,880.93

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CON

—NEW SUPPLY.								
Ds Con @ 1 Jan.	Freight.	Engineering and Right of Way.	Miscellaneous and Building Account.	High Service Reservoir.	INTEREST.	BILLS PAYABLE.	REFUNDED FRONTAGE TAX.	BOND ACCOUNT.
Jan.								
Jan.	.....	$413.41	$10.00	.....	$7,017.50	.....	.....	.....
Jan.	.....	400.36	16.00	.....	5,857.30	.....	.....	.....
Jan.	.....	178.16	.....	.....	3,759.35	.....	.....	.....
Jan.	.....	170.61	7.00	.....	6,758.45	.....	.....	.....
Feb.	.....	168.66	18.00	.....	25,062.50	.....	.....	.....
Feb.	.....	226.66	18.24	.....	6,758.45	.....	.....	.....
Mar.	$6.59	241.66	31.43	$29.80	7,755.93	$50,000.00	$36.05	.....
Apr.	4.57	289.66	.....	.....	6,202.44	25,000.00	8.00	.....
Mar.	.....	502.69	6.75	.....	3,759.35	.....	.....	.....
Mar.	.....	543.24	77.35	.....	6,750.00	.....	4.00	.....
Jun.	3.63	561.07	5.00	.....	25,000.00	.....	5.00	.....
Jul.	6.44	484.16	5.15	.....	8,750.00	.....	1.00	.....
Au.								
Aug.	$21.23	$4,180.34	$194.92	$29.80	$113,431.27	$75,000.00	$54.05	.....
Sep.								
Sep.								

...	.....	$1,558.80	$8.00	.....	$7,008.75	.....	.....	.....
10	$3,418.74	25,647.53	8,250.02	.....	28,371.39	$128,000.00	.....	.....
CO 0	5,916.00	42,013.66	1,722.59	.....	50,337.33	65,000.00	.....	.....
16	7.92	4,790.76	2,394.20	.....	79,318.58	150,000.00	.....	.....
29	.....	4,717.87	615.60	.....	85,009.36	20,000.00	$5.60	.....
I Cl 12	.....	4,181.53	657.05	$2,889.67	84,394.96	130,000.00	86.68	.....
—3	10.12	2,188.50	1,450.14	92,259.73	100,280.39	.....	138.34	.....
De 6	.....	11,000.82	953.54	49,862.75	106,732.97	.....	150.35	$160,000.00
Au 6	21.23	4,180.34	194.92	29.80	113,431.27	75,000.00	54.05	.....
Se								
12	$9,374.01	$100,279.81	$16,240.06	$145,061.95	$656,885.00	$568,000.00	$435.02	$160,000.00

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LIST OF VOUCHERS PAID FROM DEC. 1, 1889, TO DEC. 1, 1890.

DECEMBER, 1889.

No. of Voucher.	Name.	Claim.	Amount.
3952	John Caulfield, secretary, St. Paul	Pay roll for November, 1889	$6,868.19
3953	Pioneer Press Company, St. Paul	Blank books	26.75
3954	C. Stahlman & Co., St. Paul	Resetting broken glass	4.50
3955	City of Minneapolis Water Works, Minneapolis	Special castings for pump	149.15
3956	Henry R. Worthington, St. Paul	Meters and fittings	37.27
3957	Hersey Meter Co., So. Boston, Mass	Meters	232.97
3958	James B. Clow & Son, Chicago, Ill	Hersey meter	44.50
3959	Warren-Scharf Asphalt Pav. Co., N. Y	Repairing pavement	18.94
3960	Mast, Buford, Burwell Co., St. Paul	One cart for engineer	37.50
3961	M. J. Bell, St. Paul	Recording deeds	4.75
3962	Ryan Drug Co., St. Paul	Barrel sulphur	8.37
3963	Union Water Meter Co., Worcester, Mass	Meters	109.50
3964	Miles & Hale, St. Paul	Making keys, etc	2.25
3965	Fred Sickel, St. Paul	Extra work at Baldwin lake	67.90
3966	H. Klemann, St. Paul	Storm shed, etc., at Baldwin lake	52.00
3967	Dr. Carl Wirth, St. Paul	Attendance on John Lewanduski	135.00
3968	Conger Bros., St. Paul	Medicines for John Lewanduski	6.75
3969	Karl Simmon, St. Paul	Medicine for men hurt on Prescott St	1.35
3970	Brown, Treacy & Co., St. Paul	Stationery	7.58
3971	John Dowlan & Son, St. Paul	Wood	21.00
3972	Lockwood, Allard & Co., Union Park	Pine slabs	3.50
3973	P. N. Lindquist, St. Paul	Horseshoeing	10.50
3974	Northwestern Shot & Lead Co., St. Paul	Pig lead	79.83
3975	J. G. Duggan, St. Paul	Blacksmithing	23.00
3976	C. Collins, St. Paul	Sharpening tools	25.55
3977	John Melrose, St. Paul	Blasting timbers	22.00
3978	E. McNamee, St. Paul	Feed	19.42
3979	Farwell, Ozmun, Kirk & Co., St. Paul	Tools	3.97
3980	Northwestern Tel. Exch. Co., St. Paul	Rental of 4 set telephones to May 1, 1890	68.51
3981	Northwestern Tel. Exch. Co., St. Paul	Moving and rebuilding lines	268.34
3982	P. H. Kelly Mercantile Co., St. Paul	Powder, fuse and oil	90.35
3983	Jos. Bulena, St. Paul	Sharpening tools	2.00
3984	K. P. Cullen, St. Paul	Livery	16.00
3985	Adam Decker & Co., St. Paul	Stove, etc., at Baldwin lake	14.00
3986	John Martin Lumber Co., St. Paul	Lumber	54.96
3987	Robert Seeger, St. Paul	Gasoline	2.65
3988	D. Ramaley & Son, St. Paul	Job printing	17.00
3989	Northwestern Fuel Co., St. Paul	Coal for Baldwin lake	139.97
3990	St. Paul Brass Works, St. Paul	Block tin and brass goods	157.34
3991	Chas. Friend & Son, St. Paul	Harness fittings	5.90
3992	Geo. Reis, city treasurer, St. Paul	Interest due Dec. 1, 1889	7,017.50
3993	Taylor-Craig Corporation, St. Paul	Carpenter work	6.76
3994	Scribner-Libbey Co., St. Paul	Sheet iron work	4.00
3995	C. Allison, St. Paul	Building barn at Baldwin lake	187.00
3996	Donaldson, Ogden & Co., St. Paul	Lamps and fixtures	6.11
3997	Nicols & Dean, St. Paul	Cast washers	3.45
3998	Rogers & Ordway, St. Paul	Chipping knife	.30
3999	H. P. Rugg & Co., St. Paul	Pipe and fittings	48.06
4000	Galvin Valve & Hydrant Co., St. Paul	Estimate 7 and final, brass goods	138.00
4001	Shickle, Harrison & Howard Iron Co., St. Louis, Mo	Special castings	54.88
4002	C. Allison, St. Paul	Coal shed, etc., at Baldwin lake	136.27
4003	Allen & Co., St. Paul	Teaming to pump house	42.00
4004	Fairbanks, Morse & Co., St. Paul	Wheelbarrow scales	45.00
4005	J. J. Watson, Bro. & Hyndman, St. Paul	Insurance	15.00
4006	Gutta Percha & Rubber Mfg. Co. Chicago	Valves for hydrant packing	7.69
4007	Tierney & Co., St. Paul	Feed	4.10
4008	St. Paul Stone Co., St. Paul	Hex. tile to repair walks	7.50
4009	J. D. Estabrook, St. Paul	Surveying	15.00
4010	The Globe Publishing Co., St. Paul	Advertising	13.00
4011	The City of St. Paul, St. Paul	Relaying pavement	241.98
	Total		$16,854.61

LIST OF [illegible] — Continued

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LIST OF VOUCHERS—*Continued.*

FEBRUARY, 1890.

No. of Voucher.	Name.	Claim.	Amount.
4066	John Caulfield, secretary, St. Paul	Pay roll for January	$3,951.91
4067	Geo. Reis, city treasurer, St. Paul	Interest due Feb. 1, 1890	8,759.35
4068	The Hersey Meter Co., So. Boston, Mass	Meter	125.17
4069	St. Paul Gas Light Co., St. Paul	Relaying pavement	42.84
4070	W. E. Magraw, St. Paul	Globe, Nov. 1, 1889, to Feb. 1, 1890	2.55
4071	Henry Bucher, Jr., St. Paul	Board, and team work	232.00
4072	Henry R. Worthington, St. Paul	Meters	286.15
4073	Fred Sickel, St. Paul	Extra masonry, Baldwin lake	3.00
4074	C. Allison, St. Paul	Repairing flume, Baldwin lake	13.45
4075	Kenny Bros., St. Paul	Work on boiler, McCarron lake	10.60
4076	E. McNamee, St. Paul	Feed	16.09
4077	Globe Oil Co., St. Paul	Three hundred gallons W. W. oil	25.50
4078	Brown, Treacy & Co., St. Paul	Stationery	7.65
4079	John Dowlan & Sons, St. Paul	Wood	25.00
4080	August Rehbein, St. Paul	Wood at Baldwin lake	66.00
4081	W. Speiser, Baldwin lake	Wood	58.75
4082	Jacob Hasnig, Baldwin lake	Wood at pump house	23.75
4083	St. Paul Daily News, St. Paul	Advertising	8.50
4084	Northwestern Fuel Co., St. Paul	Coal	161.81
4085	Northwestern Shot and Lead Co., St. Paul	Lead pipe	24.18
4086	C. Collins, St. Paul	Sharpening tools	23.55
4087	Jno. Martin Lumber Co., St. Paul	Lumber at Rice lake	44.94
4088	A. C. Moesbrugger, St. Paul	Hauling coal	27.70
4089	P. H. Kelly Mercantile Co., St. Paul	Powder, fuse and oil	56.09
4090	H. P. Rugg & Co., St. Paul	Galvanized pipe, fittings, etc	35.14
4091	Geo. Mitsch & Co., St. Paul	Supplies	4.05
4092	H. E. Wedelstaedt, St. Paul	Engineering stationery	10.60
4093	The Globe Printing Co., St. Paul	Advertising	3.00
4094	Die Volkszeitung, St. Paul	Advertising	1.50
4095	J. G. Duggan, St. Paul	Blacksmithing	122.65
4096	Dr. Wm. Richeson, St. Paul	Professional services	7.00
4097	Chas. Friend & Son, St. Paul	Harness fittings	2.10
4098	Jno. Bell & Son, St. Paul	Cement	5.60
4099	St. Paul Foundry Co., St. Paul	Manhole covers	36.00
4100	Goodyear Rubber Co., St. Paul	Steam hose	5.10
4101	Robert Seeger, St. Paul	Five gallons gasoline	.60
4102	St. Paul Brass Works, St. Paul	Brass goods and block tin	60.35
4103	P. N. Lindquist, St. Paul	Horseshoeing	2.50
4104	Robinson & Cary Co., St. Paul	Waste, etc	11.90
4105	Brennan Lumber Co., St. Paul	Lumber	.48
4106	Jas. Gilfillan, St. Paul	Rent of storage ground	12.50
4107	The Dean St'm Pump Co., Holyoke, Mass	Machinist, setting pump	325.90
4108	A. Thon, St. Paul	Wood at Baldwin lake	122.38
4109	A. Anderson, St. Paul	Wood at Baldwin lake	66.69
4110	J. Arth, St. Paul	Wood at Baldwin lake	62.57
4111	Whittier Machine Co., Boston, Mass	Water gates	19.50
4112	J. M. Rossell, St. Paul	Repairing awning	4.00
4113	D. Ramaley & Son, St. Paul	Blank bonds	7.60
4114	T. M. Dill, St. Paul	Copying	2.50
4115	R. T. O'Connor, clerk of district court	Entering transcript	4.00
4116	Boeringer & Son, St. Paul	Spring for level rod	2.00
4117	Geo. Reis, city treasurer, St. Paul	Street sprinkling	9.90
4118	R. D. Wood & Co., Philadelphia, Pa	Estimate No. 1, hydrants	3,210.00
4119	Farwell, Ozmun, Kirk & Co., St. Paul	Tools	16.54
4120	John Caulfield, secretary, St. Paul	Cash advanced for miscellaneous bills	41.44
4121	The Dispatch Printing Co., St. Paul	Advertising	7.85
	Total		$13,220.47

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LIST OF VOUCHERS—*Continued.*

APRIL, 1890.

No. of Voucher.	Name.	Claim.	Amount.
4160	Jno. Caulfield, secretary, St. Paul	Pay roll for March	$4,677.42
4161	James Claffey, St. Paul	Estimate No. 2, drayage	256.58
4162	James Gilfillan, St. Paul	Rent of storage lot	12.50
4163	W. E. Magraw, St. Paul	Daily Globe, February 1 to May 1	2.55
4164	Die Volkszeitung, St. Paul	Advertising	1.50
4165	John Dowlan & Son, St. Paul	Wood	19.00
4166	Griggs Bros., St. Paul	Hay	67.60
4167	M. J. Bell, St. Paul	Register of Deeds	2.00
4168	John Hughes, St. Paul	Wood at Baldwin lake	93.43
4169	J. G. Duggan, St. Paul	Blacksmithing	42.30
4170	Chas. Friend & Son	Harness fittings	3.20
4171	K. P. Cullen, St. Paul	Team to Rice lake, etc	12.00
4172	Goodyear Rubber Co., St. Paul	One dozen clamps	3.33
4173	P. N. Lindquist, St. Paul	Horseshoeing	5.50
4174	C. Collins, St. Paul	Sharpening tools	34.40
4175	The Pioneer Press Co., St. Paul	Job printing	15.10
4176	The Pioneer Press Co., St. Paul	Advertising	10.50
4177	Henry R. Worthington, St. Paul	Meters	284.49
4178	R. D. Wood & Co., Philadelphia, Pa	Estimate No. 3, hydrants	1,600.00
4179	D. Ramaley & Son, St. Paul	Four hundred annual reports	63.50
4180	Jno. Martin Lumber Co., St. Paul	Lumber	8.26
4181	P. H. Kelly Mercantile Co., St. Paul	Three oil tanks	21.00
4182	Adam Decker, St. Paul	Hardware	1.65
4183	Farwell, Ozmun, Kirk & Co., St. Paul	Powder, fuse and nails	90.04
4184	Scribner-Libbey Co., St. Paul	Cutting pipe, etc	5.50
4185	Edward McNamee, St. Paul	Feed	13.48
4186	Brown, Treacy & Co., St. Paul	Blank books	66.00
4187	The Engineering and Building Record, New York	One year's subscription to Mar. 15, 1891	4.00
4188	H. P. Rugg & Co., St. Paul	Pipe fittings, etc	31.84
4189	D. Ramaley & Son, St. Paul	Printing	11.00
4190	Geo. J. Mitsch & Co., St. Paul	Supplies	6.41
4191	Rogers & Ordway, St. Paul	Pipe, fittings, etc	294.75
4192	Robinson & Cary Co., St. Paul	Hemp packing, etc	7.04
4193	St. Paul Brass Works, St. Paul	Repairing valves	14.00
4194	Pioneer Press Co., St. Paul	Thirty-five papers	1.05
4195	H. E. Wedelstaedt, St. Paul	Stationery	.50
4196	The St. Paul Daily News, St. Paul	Advertising	6.00
4197	Robinson & Cary Co., St. Paul	Hemp packing, Estimate No. 1 and final	295.91
4198	St. Paul Foundry Co., St. Paul	Estimate No. 2, special castings	650.00
4199	A. W. Morgan Mnfg. Co., Buffalo, N. Y.	Estimate No 2, valve boxes	1,425.00
4200	Oil, Gas and Water Well Drilling Co., St. Paul	Estimate No. 1, deep well	364.00
4201	Schickle, Harrison & Howard Iron Co., St. Louis, Mo	Estimate No. 2, pipe and specials	32,950.79
4202	H. P. Rugg & Co., St. Paul	Estimate No. 1, stop and waste cocks	843.13
4203	A. W. Morgan Mnfg. Co., Buffalo, N. Y.	Estimate No. 3, valve boxes	920.25
4204	H. Mueller Mnfg. Co., Decatur, Ill	Estimate No. 2, corporation taps	327.89
4205	Vanderwarker & Acker, St. Paul	Estimate No. 5 and final, coal	1,520.15
4206	Galvin Brass & Iron Wks, Detroit, Mich.	Estimate No 1, valves	3,840.25
4207	Geo. Reis, city treasurer, St. Paul	Interest on bonds	25,062.50
4208	Rogers & Ordway, for N. W. Shot & Lead Co., St, Paul	Estimate No. 1, lead pipe, pig lead, etc.	9,129.64
4209	R. C. Clark, St. Paul	Inspecting boiler at Rice lake	6.00
4210	The St. Paul Daily News, St. Paul	Advertising	7.00
4211	E. R. Harroun, city assessor, St. Paul	Making frontage tax, 1889	1,000.00
4212	Chas. L. Scofield, for A. M. Lawton, St. Paul	L. 4, B. 4, W. St. Paul Synd. No. 1	1,057.00
4213	E. R. Bryant and Jos. O. Bryant, St. Paul	L. 7, B. 4, W. St. Paul Synd. No. 1	1,300.00
4214	Albert M. Lawton, St. Paul	L. 5, B. 4, W. St. Paul Synd. No. 1	1,000.00
4215	Wm. Jenden, for J. F. George, St. Paul	L. 6, B. 4, W. St. Paul Synd. No. 1	1,028.50
	Total		$90,517.43

LIST OF VOUCHERS — *Continued.*

JUNE, 1890.

No. of Voucher.	Name.	Claim.	Amount.
4269	John Caulfield, secretary, St. Paul	Pay roll for May	$12,212.45
4270	John Art, St. Paul	Two hundred fence posts	19.00
4271	James Gilfillan, St. Paul	Rent of storage lot	12.50
4272	John Hughes, St. Paul	Breaking land at Rice lake	4.50
4273	Fairbanks, Morse & Co., St. Paul	Platform scales, Union Park	29.40
4274	Geo. Reis, city treasurer, St. Paul	Interest on bonds due June 1, 1890	7,017.50
4275	S. A. Thompson, St. Paul	Teaming and labor at Rice lake	28.75
4276	St. Paul Furniture Co., St. Paul	Moving office fixtures	6.60
4277	A. R. Capehart, St. Paul	Rent of temporary office	125.00
4278	St. Aubin & Dion, St. Paul	Moving safe	5.00
4279	Peoples Ice Co., St. Paul	Truck horse	200.00
4280	Griggs Bros., St. Paul	Use of horse	5.00
4281	Lockwood, Allard & Co., St. Paul	Ten cord slabs	30.00
4282	Babcock & Stevens, St. Paul	Estimate No. 2 and final, house Union Pk	534.00
4283	R. D. Wood & Co., Philadelphia, Pa	Estimate No. 5, hydrants	1,600.00
4284	Shickle, Harrison & Howard Iron Co., St. Louis	Estimate No. 4, pipe and specials	20,952.24
4285	Oil, Gas and Water Well Drilling Co., St. Paul	Estimate No. 3, deep well	1,149.90
4286	Shickle, Harrison & Howard Iron Co., St. Louis	Estimate No. 5, pipe and specials	8,609.43
4287	D. L. Curtice, St. Paul	Curtice atlas	90.00
4288	H. E. Wedelstaedt, St. Paul	Engineering material	15.00
4289	Allen & Co., St. Paul	Team to Vadnais lake	6.00
4290	Scribner-Libbey Co., St. Paul	Repairing engine on wells	16.43
4291	K. P. Cullen, St. Paul	Livery	9.00
4292	Henry R. Worthington, St. Paul	Meters	69.50
4293	St. Paul Daily News, St. Paul	Advertising	3.00
4294	J. G. Duggan, St. Paul	Sharpening tools	96.45
4295	Ed. McNamee, St. Paul	Feed	1.26
4296	Geo. J. Mitsch & Co., St. Paul	Supplies	12.15
4297	Goodyear Rubber Co., St. Paul	Two dozen 2½ inch clamps	6.65
4298	John Dowlan & Sons, St. Paul	Wood	34.25
4299	Chas. Friend & Son, St. Paul	Harness fittings, etc	31.70
4300	W. H. Konantz & Co., St. Paul	Stable fixtures	1.65
4301	P. N. Lindquist, St. Paul	Horseshoeing	8.50
4302	Alderson & Arond, St. Paul	Sharpening tools	4.85
4303	Jos. Bulena, St. Paul	Sharpening tools	4.20
4304	J. P. Gribben Lumber Co., St. Paul	Lumber	11.33
4305	Lockwood, Allard & Co., St. Paul	Pine slabs	3.50
4306	H. P. Rugg & Co., St. Paul	Plumbers' tools and fittings	105.16
4307	P. H. Kelly Mercantile Co., St. Paul	Oil, etc	49.23
4308	Adam Decker & Co., St. Paul	Barb wire, etc	25.25
4309	James Claffey, St. Paul	Estimate No. 4, drayage	318.54
4310	Pratt-Hull Oil Co., Cleveland, O	One barrel boiler compound	32.90
4311	Scheffer & Rossum, St. Paul	Leather	1.85
4312	Kenny Bros., St. Paul	Labor on boiler	5.00
4313	John Caulfield, secretary, St. Paul	Refunded frontage tax	36.05
4314	John Caulfield, secretary, St. Paul	Sundry bills paid	49.58
4315	City of St. Paul	Relaying pavement	150.16
4316	C. Collins, St. Paul	Sharpening tools	31.15
4317	Rogers & Ordway, St. Paul	Tools, etc	1.50
4318	Robinson & Cary Co., St. Paul	Pumps and fittings	276.51
4319	Farwell, Ozmun, Kirk & Co., St. Paul	Tools, etc	116.87
4320	Board Fire Commissioners, St. Paul	Three hundred feet hose	60.00
4321	Richard Price, St. Paul	Examining horses	10.00
4322	Brown, Treacy & Co., St. Paul	Printing and stationery	30.80
4323	St. Paul Brass Works, St. Paul	Brass goods	10.90
4324	Taylor-Craig Corporation, St. Paul	Lumber, etc	23.00
4325	Geo. H. Lains Furniture Co., St. Paul	Furniture at reservoir	29.80
4326	Wm. Rodger & Co., St. Paul	Machine work	2.51
4327	John Rogers, Jr. & Bro., St. Paul	Insurance	12.60
4328	H. K. Wallan, St. Paul	Hauling lumber, Rice lake	2.50
4329	John Martin Lumber Co., St. Paul	Lumber	56.74
4330	Dowling & Ruse, St. Paul	Estimate No. 2, office addition	1,623.50
4331	First National Bank, St. Paul	Note of April 12, 1890, and interest	50,738.43
	Total		$106,767.22

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LIST OF VOUCHERS—*Continued.*

AUGUST, 1890.

No. of Voucher.	Name.	Claim.	Amount.
4402	John Caulfield, secretary, St. Paul	Pay roll for July, 1890	$12,567.39
4403	Geo. Reis, city treasurer, St. Paul	Interest due August 1, 1890	3,759.35
4404	Die Volkszeitung, St. Paul	Advertising	2.25
4405	James Gilfillan, St. Paul	Rent of storage lot	12.50
4406	D. Ramaley & Son, St. Paul	Stationery and printing	5.00
4407	Charles Helson, St. Paul	Oak wood	316.60
4408	Great Northern Railway, St. Paul	Labor	52.10
4409	John Rogers, Jr., & Bro., St. Paul	Insurance	20.00
4410	St. Paul Daily News, St. Paul	Advertising	2.50
4411	The Dispatch Printing Co., St. Paul	Advertising	3.50
4412	The Globe Publishing Co., St. Paul	Advertising	12.50
4413	Martin Feist, St. Paul	Board	4.35
4414	P. N. Lindquist, St. Paul	Horseshoeing	12.00
4415	John Dowlan & Sons, St. Paul	Wood	22.25
4416	J. G. Duggan, St. Paul	Blacksmithing	33.20
4417	Pioneer Press Co., St. Paul	Advertising	17.36
4418	F. G. Draper, St. Paul	Picture hooks	.75
4419	Prendergast Bros., St. Paul	Iron and labor	3.71
4420	Hersey Meter Co., St. Paul	Meter couplings, etc	219.58
4421	Pratt Hull Oil Co., Cleveland, Ohio	Oil	31.80
4422	Herman W. Philips, St. Paul	Service as attorney	100.00
4423	Quinby & Abbott, St. Paul	Furniture	105.75
4424	H. P. Cullen, St. Paul	Livery	6.00
4425	Brown, Treacy & Co., St. Paul	Stationery	48.82
4426	Northwestern Fuel Co., St. Paul	Coal	82.65
4427	John Martin Lumber Co., St. Paul	Lumber	62.02
4428	Brennan Lumber Co., St. Paul	Lumber	3.36
4429	John Bell & Sons, St. Paul	Cement	12.20
4430	E. McNamee, St. Paul	Feed	1.71
4431	W. H. Konantz & Co., St. Paul	Harness fittings, etc	4.45
4432	George Mitsch & Co., St. Paul	Soap, oil, etc	3.80
4433	Donaldson, Ogden & Co., St. Paul	Lantern globes, etc	2.99
4434	A. C. Mossbrugger, St. Paul	Hauling	16.49
4435	James Claffey, St. Paul	Estimate No. 6, drayage	53.41
4436	August Rehbein, St. Paul	Wood	12.00
4437	Goodyear Rubber Co., St. Paul	Clamps	3.33
4438	Farwell, Ozmun, Kirk & Co., St. Paul	Hardware	94.42
4439	C. Collins, St. Paul	Blacksmithing	37.95
4440	Pioneer Press Co., St. Paul	Printing	8.00
4441	H. P. Rugg & Co., St. Paul	Pipe, etc	529.27
4442	Robinson & Cary Co., St. Paul	Tools and material	84.57
4443	P. H. Kelly Mercantile Co., St. Paul	Oil	11.39
4444	Adam Decker, St. Paul	Hardware	2.00
4445	C. Allison, St. Paul	Lumber, etc	10.42
4446	Schickle, Harrison & Howard Iron Co., St. Louis	Estimate No. 7, pipe	6,102.66
4447	Taylor-Craig Corporation, St. Paul	Work on vault	5.50
4448	St. Paul Furniture Co., St. Paul	Office furniture	155.00
4449	Scribner-Libbey Co., St. Paul	Buckets, etc	4.75
4450	Alderson & Arond, St. Paul	Blacksmithing	10.43
4451	Joseph Bulena, St. Paul	Blacksmithing	3.40
4452	St. Paul Brass Works, St. Paul	Brass goods and repairs	16.03
4453	P. V. Dwyer & Bro., St. Paul	Gas fixtures	65.60
4454	Dowling & Ruse, St. Paul	Estimate No. 3 and final	1,591.75
4455	Loren G. Kilbour, (assignee for Oil, Gas & Water Well Drilling Co.), St. Paul	Estimate No. 4 and final	425.34
4456	St. Paul Carpet Co., St. Paul	Office furniture	118.35
4457	C. R. Woods, St. Paul	Copying	10.00
4458	John Flor, St. Paul	Wood	28.19
4459	Robert Seeger, St. Paul	Gasoline	2.40
4460	The Cook Well Co., St. Louis	Labor on wells	262.88
4461	A. W. Morgan Man'f'g Co., Buffalo	Estimate No. 4, valve boxes	53.75
4462	Galvin Brass and Iron Works, Detroit	Estimate No. 4, valves	247.35
	Total		$27,499.07

[illegible] THE CITY OF SAINT PAUL, [illegible]

[illegible] (Continued)

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[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

LIST OF VOUCHERS—*Continued.*

OCTOBER, 1890.

No. of Voucher.	Name.	Claim.	Amount.
4522	Jno. Caulfield, secretary, St. Paul	Pay roll for September, 1890	$13,788.46
4523	Geo. Reis, city treasurer, St. Paul	Interest due October 1, 1890	25,000.00
4524	R. D. Wood & Co., Philadelphia	Estimate No. 6, hydrants	1,221.25
4525	N. W. Telephone Exch. Co., St. Paul	Rent of instruments	82.40
4526	C. C. Sharp, St. Paul	Copying	10.00
4527	W. A. Somers, St. Paul	Expenses to Duluth	5.00
4528	Percy E. Barber, St. Paul	Survey expenses	12.16
4529	W. E. Magraw, St. Paul	Daily Globe, August 1 to October 31	2.55
4530	Pioneer Press Co., St. Paul	Advertising	7.00
4531	James Gilfillan, St. Paul	Rent of storage lot	12.50
4532	Robert Seeger, St. Paul	Gasoline	1.20
4533	Die Volkszeitung, St. Paul	Advertising	2.55
4534	Jno. Dowlan & Sons, St. Paul	Wood	26.00
4535	C. Collins, St. Paul	Blacksmithing	36.85
4536	P. N. Lindquist, St. Paul	Horseshoeing	9.75
4537	J. G. Duggan, St. Paul	Blacksmithing	50.40
4538	Frank Krunzer, St. Paul	Wood	24.75
4539	The Dispatch Printing Co., St. Paul	Advertising	6.50
4540	Brown, Treacy & Co., St. Paul	Stationery	18.43
4541	The St. Paul Daily News, St. Paul	Stationery	7.50
4542	Henry R. Worthington, St. Paul	Meters	199.38
4543	Geo. Mitsch & Co., St. Paul	Supplies	7.65
4544	Rogers & Ordway, St. Paul	Galvanized pipe, etc	75.58
4545	Alderson & Arond, St. Paul	Blacksmithing	7.86
4546	Farwell, Ozmun, Kirk & Co., St. Paul	Powder, fuse, etc	95.05
4547	Boeringer & Son, St. Paul	Crayon, etc	2.25
4548	Shadle & Acker Coal Co., St. Paul	Estimate No. 2, coal	1,425.46
4549	Globe Publishing Co., St. Paul	Advertising	10.75
4550	L. J. Templeton & Co., St. Paul	Feed	12.00
4551	Robinson & Cary Co., St. Paul	Estimate No. 1 and final, pig lead	764.90
4552	Robinson & Cary Co., St. Paul	Estimate No. 1 and final, pump	409.00
4553	Robinson & Cary Co., St. Paul	Machine supplies	118.47
4554	Jos. Bulena, St. Paul	Blacksmithing	5.20
4555	St. Paul Foundry Co., St. Paul	Estimate No. 4, castings	63.60
4556	Jno. Bell & Son, St. Paul	Cement	4.20
4557	P. H. Kelly Mercantile Co., St. Paul	Oil, candles, etc	60.73
4558	Jilson & Sowden, St. Paul	Boiler supplies	11.38
4559	Jno. Martin Lumber Co., St. Paul	Lumber	54.46
4560	H. P. Rugg & Co., St. Paul	Pipe, nipples, etc	147.44
4561	Schickle, Harrison & Howard Iron Co., St. Louis	Estimate No. 9, pipe	4,492.25
4562	Henry Bucher, St. Paul	Board	30.90
4563	James Clafley	Estimate No. 8, drayage	66.62
4564	E. McNamee, St. Paul	Feed	1.46
4565	Jno. Caulfield, secretary, St. Paul	Cash advanced for miscellaneous bills	35.89
4566	Murray & Woodruff, St. Paul	Drawing contract	25.00
4567	A. C. Mossbrugger, St. Paul	Hauling coal	12.72
4568	Scribner-Libbey Co., St. Paul	Drilling, etc	1.35
4569	Lewis & Hallan, attorneys for Pederson & Nyhus, St. Paul	Claim for damages	25.00
4570	Kenny Bros., St. Paul	Boiler supplies	19.84
4571	St. Paul Brass Works, St. Paul	Brass goods	36.93
4572	J. F. Buechner & Son, St. Paul	Blacksmithing	9.25
4573	L. J. Templeton & Co., St. Paul	Feed	8.75
4574	Miles & Hale, St. Paul	Keys	2.90
4575	Galvin Brass & Iron Works, Detroit	Estimate No. 6, valves	65.00
	Total		$48,584.47

[illegible]

[illegible]

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METERS.

Kind of Meter.	Sizes.							Total.
	5/8″	3/4″	1″	1½″	2″	3″	4″	
Worthington (improved)	36	31	23	17	3	4	2	116
Worthington (old style)	4	16	10	9	2	3	.....	44
Union (rotary)	14	16	10	7	.....	.....	.....	47
Union (piston)	5	4	6	1	.....	.....	.....	16
Crown	5	4	13	28	4	1	1	56
Empire	38	39	31	.....	8	.....	1	117
Hersey	7	14	12	6	3	1	.....	43
Self-register on elevator	.....	.....	.....	.....	.....	.....	1	1
Total	109	124	105	68	20	9	5	440

SHUTTING OFF AND TURNING ON WATER FROM DEC. 1, 1889, TO DEC. 1, 1890.

	High Service.	Low Service.	Total.
Shut off for repairs	94	148	242
Shut off for non-payment	84	198	282
Shut off for vacant premises	140	456	596
Total	318	802	1,120
Turned on, old services	510	735	1,245
Turned on, new services	1,198	335	1,533
Turned on for builders	21	.....	21
Total	1,729	1,070	2,799

Total services shut off and turned on for year ending Dec. 1, 1890 3,919
Total services shut off and turned on for year ending Dec. 1, 1889 3,978
Total services shut off and turned on for year ending Dec. 1, 1888 2,833
Total services shut off and turned on for year ending Dec. 1, 1887 2,541
Total services shut off and turned on for year ending Dec. 1, 1886 2,384
Total services shut off and turned on for year ending Dec. 1, 1885 2,311
Total services shut off and turned on for year ending Dec. 1, 1884 1,014

SUPERINTENDENT'S REPORT

[illegible]

HIGH SERVICE.

	Feet.
4 inch pipe	42,454
6 inch pipe	86,022
12 inch pipe	17,401
16 inch pipe	15,890
Making a total of	123,559

Or 23 miles and 2,119 feet.

Grand total of mains laid at this date, 193 miles and 1,266 feet.

Our fire hydrants are at present in a satisfactory state of repair. The repairs on same for the past season were as follows:

Twenty-four leaks in main valves, mostly caused by sand and gravel on new extensions, five leaks in seat working, six leaks in elbows, five breaks in ring valves, eight broken rods and six broken stuffing boxes, which is a very low percentage on a total of 1,748 hydrants, and speaks well for the care they received at the hands of our fire department. I don't think any other city in the state can make as good a showing. Two hundred and seventy-seven fire hydrants were placed this year, making a total of 1,748 now in service. We have 216 sprinkling stand pipes, thirty of which were placed this year. Total number of valves now in use 1,707.

The repair on valves is as follows: Two broken spindles, one on a three-inch and one on a six-inch valve, six stuffing boxes leaked and two valve discs broken; 1,407 service pipes were put in this season, a slight falling off from last year, although exceeding any previous year by two hundred, and making the total number of services on high and low service 10,458.

Twenty-nine leaks occurred in service pipes, one-half less than in 1889, three from defective goose-necks, nine caused by the settling of the earth on the Seventh street fill, and on Thirteenth or Fourteenth street by peat foundations. In six cases the earth settled at stops on curb line and eight in the sewer. In three instances the stop-cocks were defective at main.

In some isolated cases we have been annoyed by a fungus growth in service pipes. The only way to remove it is by steam. I would therefore recommend the purchase of a ten horse-power portable engine. Then such cases could be promptly attended to. At present we have no means to properly remove this obstruction. We are liable to require an engine for a steam pump in construction work, and this one would fully meet the want.

I respectfully tender my warmest thanks to the members of the board and to all the officers of the department, for the uniform kindness and courtesy received at their hands at all times.

I remain, gentlemen, your obedient servant,

J. B. OVERTON,
Superintendent.

PIPE LAID ON LOW SERVICE DURING THE YEAR 1890.

Date.	Street.	From Street to Street.	Number of Feet and Size of Pipe.	
			4-in.	6-in.
April 21	Armstrong	Seventh to Drake		1,060
May 1	Warsaw	Audubon to Seventh		184
" 7	Randolph	Seventh to Toronto		338
" 26	Mt. Ida	East of Rivoli		179
Sept. 22	Tuscarora	Seventh to Stewart		1,137
" 22	Stewart	Tuscarora to Bay		909
" 22	Bay	Stewart to Seventh		1,265
Oct. 4	Delos	At Hall		24
" 4	Hall	Isabel to Prospect Terrace		814
" 10	Hall	Winifred to George		650
" 16	Congress	Wabasha to Winslow		1,248
" 17	Bidwell	Isabel to Congress		302
" 23	Winifred	Stryker to 48 feet west of Bellows		1,411
" 30	Dearborn	Robert to Livingston		322
" 31	Anita	Robie to Winifred	334	
Nov. 6	Fifth	Broadway to John		820
" 7	Woodward	Lafayette to John	364	
" 17	Yankee	Seventh to Dousman	647	
" 17	Randolph	Webster to Toronto		350
" 17	View	Seventh to Randolph		1,297
" 25	Congress	Winslow to Carlton		1,681
" 26	Watson	View to Chatsworth		2,133
" 26	Fred	East of Burr	337	
	Totals		1,682	16,124

Total 4-inch pipe, 1,682
Total 6-inch pipe, 16,124

17,806 feet, or 3 miles 1,966 feet.

PIPE LAID ON HIGH SERVICE DURING THE YEAR 1890.

Date.		Street.	From Street to Street.	Number of Feet and Size of Pipe.			
				4-in.	6-in.	12-in.	16-in.
April	28	St. Anthony	St. Albans to Victoria		2,008		
"	28	St. Albans	St. Anthony to Martin	327			
"	28	Grotto	North of Sherburne		61		
"	30	Miller	Iglehart to Rondo	684			
May	1	Carroll	Milton to Chatsworth		471		
"	2	Whitall	Payne to Bradley		1,331		
"	5	Dayton	Laura to Cleveland		2,208		
"	5	Prior	Dayton to Marshall		422		
"	6	Westminster	Lookout Place to Case		384		
"	6	Lookout Place	Arkwright to Westminster		447		
"	6	Dayton	Milton to Oxford		1,314		
"	7	York	De Soto to Clark		327		
"	13	Jessie	Case to Jessamine		1,643		
"	13	Laurel	Fisk to Oxford		2,315		
"	17	Lincoln	Milton to Oxford		1,244		
"	21	Magnolia	85 ft. east of Forest to Greenbrier		2,768		
"	21	St. Anthony	Snelling to Laura		2,957		
"	23	Goodrich	Victoria to Oxford		1,735		
"	29	Evergreen	Chatsworth to Oxford		619		
"	29	Chatsworth	Evergreen to Osceola		212		
"	29	Osceola	Victoria to Chatsworth		1,317		
"	29	Rose	Walsh to Arcade		836		
"	29	Arcade	Jessamine to Rose			660	
June	2	Geranium	West of Edgerton		45		
"	3	Geranium	Arcade to Greenbrier		1,258		
"	5	Fairview	St. Anthony to Auburn				1,670
"	5	St. Clair	Victoria to Oxford			1,935	
"	5	Jessamine	Weide to Greenbrier		950		
"	6	Auburn	506 feet west of Fairview		506		
"	10	Wheeler ave.	University to Shields		588		
"	12	Beacon	University to Shields	594			
"	12	Portland	Victoria to Avon		701		
"	19	Jessamine	150 ft. e. of Mississippi to Bradley		2,505		
"	23	Hague	Victoria to Lexington		2,539		
"	24	Payne	Rose to Ivy		1,647		
"	24	Mulberry	Third to Sixth	365			
"	24	Territorial road	Raymond to Eustis		1,498		
"	25	Nourse	Gordon to N. P. Ry		392		
"	27	De Soto	Case to Lawson		613		
"	28	Charles	Western to Mackubin		1,341		
"	29	Greenbrier	North of Case	40			
July	3	Arundel	Charles to Lafond	978			
"	5	Gaultier	Sherburne to Charles		320		
"	7	Virginia	Lafond to Como	1,240			
"	9	Capitol	Snelling to Wheeler		1,924		
"	9	Arch	100 ft. w. of Columbia to Jackson		1,725		
"	11	Gaultier	Topping to Cook		2,084		
"	14	Stinson	Gaultier to Farrington		612		
"	17	Minnehaha	St. P. & D. Ry. to Arcade			1,522	
"	19	Woodbridge	Atwater to Front		1,297		
"	21	Milford	Rice to Woodbridge		655		
"	24	Reaney	Frank to English		1,970		
"	25	Rice	S. line of G. N. Ry. at Sycamore			940	
"	30	Fauquier	290 feet e. of Atlantic to Frank		1,667		
August	1	Atlantic	Fauquier to East Seventh		647		
"	1	Ross	At Atlantic		17		
"	13	Seventh	Ocean to Phalen				525
"	13	Phalen	Seventh to Stillwater			1,419	
"	14	Cleveland	University to Carroll				3,313
"	14	University	At Cleveland		40		
"	14	St. Anthony	Crossing Cleveland		60		
"	14	Carroll	Crossing Cleveland		48		
"	20	Earl	Beech to Dawson			638	
"	20	Margaret	Earl to Gotzian		920		
"	22	Carroll	Fairview to Wheeler		575		
"	22	Fremont	Cypress to Earl		524		
"	23	Fourth	Mendota to Forrest		663		
"	23	Rice	Sycamore to Jessamine				3,600
"	27	Cook	Rice to Sylvan		1,139		
"	30	Litchfield	Rice to Sylvan		1,142		
"	30	Fuller	Milton to 200 ft. west of Oxford		1,567		
Sept.	4	Hastings	Maple to Frank			2,341	

PIPE LAID ON HIGH SERVICE DURING THE YEAR 1890.—*Concluded.*

Date.	Street.	From Street to Street.	Number of Feet and Size of Pipe.			
			4-in.	6-in.	12-in.	16-in.
Sept. 4	Atwater	Rice to Sylvan		1,142		
" 8	Earl	Hastings to Burns			1,296	
" 17	Sycamore	Rice to Cortland			2,509	
" 17	East Fifth	125 ft. e. of Hoffman to Maria		105		
" 18	Jackson	South of G. N. Ry. to Sycamore			1,153	
" 18	Victoria	University to Lafond				1,654
" 18	Lafond	Victoria to Center of Milton		691		
" 20	Short	At Maria		19		
" 20	McLean	At Maria		137		
" 20	River	At Maria	17			
" 20	Maria	Cherry to River		1,510		
" 22	Capitol	Cortland to Sylvan		1,322		
" 25	Cortland	Capitol to Sycamore		252		
" 25	Hudson	Mendota to Cypress		1,305		
" 26	Selby	Milton to Oxford		1,310		
" 30	Mound	335 feet west of Earl to Burns		1,298		
Oct. 4	Marshall	Wheeler to Amos			1,357	
" 9	Minnehaha	Hamline to Sheldon			490	
" 10	Cortland	Sycamore to Maryland				4,600
" 16	York	Agate to Cortland		542		
" 16	Granite	At Cortland		18		
" 16	Cayuga	At Cortland		18		
" 18	Agate	Cortland to York		1,739		
" 20	Osceola	At Pleasant		57		
" 20	Pleasant	Osceola to St. Albans			569	
" 21	Hoffman	Plum to Hudson		310		
" 21	Plum	At Hoffman		48		
" 23	St. Albans	Pleasant to 300 ft. s. of Fairmont			556	
" 27	Evergreen	Victoria to Milton		615		
" 28	Sherburne	Victoria to Chatsworth		1,315		
" 31	Charles	Avon to Milton		1,313		
Nov. 7	Edmund	Grotto to Milton		1,962		
" 10	Leslie	Victoria to Chatsworth		1,256		
" 11	Lexington	Grand to Summit				528
" 11	Grand	E. of Lexington 128 feet		186		
" 11	Thomas	Victoria to Chatsworth		1,268		
" 13	Thomas	Dale to Grotto		1,308		
" 14	Grotto	Thomas to Lafond		331		
" 15	Lafond	Grotto to Victoria		1,305		
" 24	Van Buren	Arundel to Victoria		4,575		
" 24	Front	At Rice			16	
" 24	Feronia	At Fairview		18		
		Total	4,245	86,023	17,401	15,890

Total 4-inch pipe 4,245
Total 6-inch pipe 86,023
Total 12-inch pipe 17,401
Total 16-inch pipe 15,890

123,559 feet, or 23 miles, 2,119 feet.

Total mileage laid this year on high and low service, 26 miles, 4,085 feet.

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON GRAVITY SYSTEM [illegible]

Streets	From Street to Street	Number of Feet and Size of Pipe							
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON GRAVITY SYSTEM OR LOW SERVICE, TO DEC. 1, 1890—*Continued.*

Street.	From Street to Street.	Number of Feet and Size of Pipe.							
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	30-in.	36-in.
Jackson	Levee to University	40	1,228	3,179		108			
Jefferson	Seventh to Webster			532					
James	185 feet west of Seventh		258						
Jessie	Minnehaha to Fauquier		634						
John	Third to Williams	1,810	1,528						
Kittson	Fourth to Seventh		846						
Kentucky	Crossing State		55						
Lafayette	Grove to De Soto	205		150	1,915				
Lee ave.	Seventh to Drake		1,445						
Leech	Goodrich to Ramsey		1,146						
Levee	Sibley to Jackson	340							
Locust	Seventh to Grove				777	248			
L'Orient	Thirteenth to Pennsylvania		1,890						
Livingston	Delos to Wood		580						
Lisbon	Douglas to Pleasant		973						
McBoal	Wilkin to Douglas		1,301						
Magnolia	Crossing Miss		18						
Market	Third to Fourth	250							
Minnehaha	Payne to De Soto		1,707						
Minnesota	Third to Twelfth	1,484	1,428						
Mississippi	Grove to terminal chamber		4,842					16,436	18
Monroe Place	Grove to Woodward	300							
Mt. Airy	Mississippi to L'Orient		330						
Mt. Ida	De Soto to Rivoli		535						
Michigan	Crossing Seventh		59						
Mayall Alley	200 feet south of Ninth	255							
Midway	Oakdale to Brown		1,847						
Nash	Pine to L'Orient		698						
Neill	Seventh to Eighth	325							
Ninth	Neill to Smith avenue	975	5,145						
Norris	Canada to Temperance	761							
North	Bedford to De Soto		851						
Olive	Sixth to Olmsted	1,454							
Olmsted	John to Pine		651						
Oneida	South of Seventh		36						
Otsego	Lafayette to Mt. Ida		791						
Oakdale	State to Midway		326		350				
Partridge	Bradley to De Soto	472							
Pine	Ninth to Olmsted	602	965						
Pleasant	Sixth to Western		3,507						
Prince	John to Broadway		825						
Payne	Beaumont to Omaha R. R.		1,092						
Pennsylvania	Mississippi to Columbia		661						
Preble	Beaumont to Minnehaha		471						
Prescott	Oakdale to Woodbury		1,365						
Ramsey	Seventh to Pleasant		1,352		307				
Randolph	Webster to Milton		757	2,818					
Richmond	At Seventh and at Goodr'h		90						
Robert	Elizabeth to Central ave.		8,881						
Reaney	St. P. & D. Ry. to Edgerton		905						
Rosabel	Third to Seventh		1,437						
Roble	State to Andrew		2,341						
St. Clair	Seventh to Colborne		40	64					
St. Peter	Third to College		2,866						
Seventh	Duluth R. R. to Tuscarora	350	1,000	2,241	13,885	1,508			
Second	East of Robert		18						
Sherman	Bluff to Pleasant		1,937						
Sibley	Levee to Norris	1,638	1,450						
Sixth	Kittson to Pleasant	4,936	1,893						
Smith street	Wilkin to Douglas		1,074						
Smith avenue	College to McBoal		3,924						
Somerset	John to Pine	669							
Spruce	Sibley to Wacouta	393							
State	Miss. River to Oakdale				6,199				
Summit avenue	Robert to Cedar		859						
Stryker	George to Prospect Terrace		2,106						
Stewart	Tuscarora to Bay		909						
Temperance	Eighth to Thirteenth	1,569							
Tenth	Locust to College	1,765	2,123			1,390			

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON GRAVITY SYSTEM, OR LOW SERVICE, TO DEC. 1, 1899—*Continued.*

Street.	From Street to Street.	Number of Feet and Size of Pipe.							
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	30-in.	36-in.
Third	John to College		1,130	6,326					
Thirteenth	Pine to Jackson	310	1,765						
Thompson	Ramsey to Pleasant		545						
Twelfth	Pine to Cedar	290				1,274			
Toronto	Seventh to Jefferson		692						
Tennessee	Crossing State		51						
Tuscarora	Stewart to Milton		2,624						
Von Minden	Deusman to Western		997						
View	Seventh to Randolph		1,297						
Wasouta	Third to Spruce	1,077	1,378	64					
Walnut	100 ft. s. of I. P. to Pleasant	2,420							
Warsaw	Audubon to Seventh		219						
Washington	Chestnut to Sixth	2,002		41					
Waverly Place	Lafayette to John		411						
Webster	Clay to Seventh		316						
Western avenue	Milwaukee Ry. to Pleasant		2,530						
Westminster	Waverly Place to N. P. Ry		1,022						
Willitus	Fifth to Seventh	550							
Wilkin	Milwaukee Ry. to Sherman		1,215						
Winifred	Andrew to 48 feet west of Bellows		5,492						
Woodward	Bradley to John	688							
Wabasha	Goff to Summit		6,963						
Watson	View to Chatsworth		2,133						
Yankee	Seventh to Deusman	678							
Main Line (old)	Fauquier to Lake Phalen				6,009		7,024		
Totals		50,388	175,548	38,943	34,492	8,302	3,765	16,436	18

Total 4-in. pipe	50,388
Total 6-in. pipe	175,548
Total 12-in. pipe	38,943
Total 16-in. pipe	34,492
Total 20-in. pipe	8,302
Total 24-in. pipe	3,765
Total 30-in. pipe	16,436
Total 36-in. pipe	18

328,292 feet, or 62 miles, 352 feet.

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON HIGH SERVICE TO DEC. 1, 1890.

Street.	From Street to Street.	Number of Feet and Size of Pipe.						
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	36-in.
Arundel	Summit to Lafond	2,553						
Ashland	Western to Milton		5,889					
Aurora	Robert to Milton		7,159					
Arcade	Third to Rose		1,070	5,382				
Astoria	St. Anthony to Milwaukee ave.		275					
Argyle	Van Slyke south 380 feet		380					
Auburn	506 feet west of Fairview		506					
Arch	100 feet west of Columbia to Jackson		1,725					
Atlantic	Fauquier to East Seventh		647					
Atwater	Rice to Sylvan		1,142					
Agate	Cortland to York		1,739					
Bates	Murray to Hastings		376	3,035				
Beech	Seventh to Duluth		3,738					
Blair	Western to Dale		2,642					
Broadway	Thirteenth to Mt. Airy		407		533			
Brewster	University to Como		1,076					
Burr	Omaha to Cook		2,605					
Burgess	Crossing Dale		46					
Bayless	Raymond to Langford Place				2,935			
Bayless Place	Raymond to Bayless ave.	902						
Burns	Mound to Griffith		2,753					
Blake	Raymond to Langford P. P. E.		282		186			
Beacon	University to Shields	594						
Buffalo	Capitol to Genesee		631					
Canada	University to Valley		290					
Capitol	Mississippi to Wheeler		6,172					
Carroll	Rice to Cleveland		13,202					
Conway	Cypress to Maria		3,067					
Cedar	Summit to Como		2,486					
Central ave.	East line of Central Pk. to Rice	557	1,254					
Central P. D. E. & W.	Summit to Central ave.	1,209						
Charles	Rice to Milton		3,516					
College	Rice to Third		1,165					
Como	Rice to Dale					6,555		
Cherry	267 feet west of Hoffman to Maria	267	565					
Cook	Mendota to Rice		4,390					
Case	Forrest to Terrace		345	6,551				
Claghorn	Lafond to Van Buren		628					
Cypress	North of Euclid	45						
Cromwell	Pym to Manvel		968					
Cudworth	Bayless to Eustis		985					
Clark	Whitall to Case		1,306					
Cross	At Lexington		25					
County Road	Langford ave to Dooley				256			
Crocus Place	Goodrich to Fairmont	1,314						
Chatsworth	Evergreen to Osceola		212					
Cleveland	University to Carroll				3,313			
Cortland	Capitol to Maryland		252		4,600			
Cayuga	Mississippi to Cortland		1,630					
Dale	Fairmont to Reservoir	4,800		2,110	5,280	1,488	14,482	1,560
Dayton	Summit to Cleveland		6,769	4,675				
Duluth	North of Summit		54					
Dayton Place	West of Maria	275						
De Soto	Whitall to Lawson		1,921					
Dawson	Arcade to Francis		1,247					
Dooley	County Road to Chelmsford		827					
Earl	Seventh to Burns			3,575				
Edmund	Rice to Milton		3,518					
Eichenwald	Sixth to Seventh		532					
Euclid	Maple to Earl		2,391					
Elfelt	Charles to Lafond	673						
Edgerton	York to Rose			3,905				
Everett Court	Wheeler to St. P., M. & M. Ry.		355					
Evergreen	Victoria to Oxford		1,234					
Farrington	Summit to Lafond		3,089					
Fauquier	290 ft. e. of Atlantic to Weide		5,273					

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON HIGH SERVICE TO DEC. 1, 1890—Continued.

Streets.	From Street to Street.	Number of Feet and Size of Pipe.						
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	36-in.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON HIGH SERVICE TO DEC. 1, 1890—*Continued.*

Street.	From Street to Street.	Number of Feet and Size of Pipe.						
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	36-in.
Manvel	Robbins to Raymond		1,142					
Magnolia	85 ft. east of Forrest to Edgerton		4,050					
Miller	Iglehart to Rondo	684						
Mulberry	Third to Sixth	365						
Milford	Rice to Woodbridge		655					
McLean	At Maria		137					
Mississippi	Great Northern Ry. to Cayuga		1,136					
Nelson	Summit to Western		2,422					
Nina	Summit to Selby		800					
North	Maria to Seventh		1,035					
Nourse	Gordon to Northern Pacific Ry.		392					
Oakland	Ramsey to Summit		3,662					
Olive	Olmsted to Pennsylvania		1,067					
Oakley	Lynnhurst west to Prior		451					
Osceola	Pleasant to Chatsworth		3,709					
Park Place	Park drive southwest	574						
Park ave	Martin to Viola		1,436					
Pine	Grove to Pennsylvania		1,820		387			
Portland	Summit to Victoria		5,290					
Pennsylvania	Olive to Pine		342					
Plum	Maple to Hoffman		1,150					
Prior	University to Dayton		422	3,447				
Payne	Omaha Ry. to Ivy		5,629					
Pascal	Minnehaha to Taylor		1,743					
Pym	Bayless to Eustis			736				
Priscilla	Raymond avenue east		542					
Pratt	Raymond to Gibbs		762					
Phalen	Seventh to Stillwater			1,419				
Pleasant	Osceola to St. Albans			569				
Rice	College to Jessamine		495	2,147	5,990	1,154		
Robert	171 feet south of University to Mt. Airy		770					
Rondo	Rice to Terrace Park avenue		9,879					
Reaney	English to Greenbrier		6,448					
Ramsey	Oakland to Summit		1,259					
Ross	Atlantic to Seventh		2,467					
Ravoux	Rondo to Fuller	616						
River	Maria to Hoffman	359						
Ravine	Maple to 344 feet west of Maria	1,423						
Raymond	University to Langford avenue		2,807		1,588			
Robbins	Bayless to Raymond Park		440					
Rose	Walsh to Arcade		836					
St. Anthony	Rice to Cleveland		13,893					
St. Peter	College to University		2,557					
Selby	Summit to Oxford		9,203					
Seventh	Phalen to Grove				9,920			
Sherburne	Jackson to Chatsworth	400	10,470					
Sinnen	Sixth to Seventh		541					
Suction main	Pump house to terminal						907	
Summit ave	C. P. D. E. to Macalester	872	4,316	10,830				
Summit Place	Nelson to Fuller		2,122					
St. Albans	Pleasant to Martin	1,704	300	556				
Sims	Forrest to Edgerton		3,922					
Summit C. A.	East of Lawton		362					
Short	Maria to Hoffman		591					
Snelling	Goodrich to Manitoba Ry				11,195			
Simpson	Capitol to Hewitt		887					
Sixth	Hoffman to Arcade		2,496					
Sidney	Raymond to Bradford		610					
Scudder	Blake to Langford avenue				1,347			
St. Clair	Victoria to Oxford			1,985				
Stinson	Gaultier to Farrington			612				
Sycamore	Rice to Cortland			2,509				
Third	Cypress to Summit	367	4,154					
Thirteenth	Pine to Broadway				778			
Tilton	Wabasha to Rice		1,278					
Thomas	Como to Chatsworth		7,605					
Topping	At Como and at Dale		118					
Taylor	Charlotte to Sheldon		2,467					

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON HIGH SERVICE TO DEC. 1, 1890—*Concluded.*

Street.	From Street to Street.	Number of Feet and Size of Pipe.						
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	36-in.
Territorial Road	Raymond to Eustis		1,498					
University	Broadway to Raymond		40	5,304	3,594	12,164		
Valley	Broadway to Jackson				1,789			
Viola	Jackson to Rice		1,653					
Victoria	St. Clair to Lafond				9,518			
Virginia	Summit to Como	2,432	1,798					
Van Buren	Western to Victoria		5,224					
Van Slyke	Lexington to Argyle		1,133					
Wabasha	Summit to Park avenue	537	842					
Western	Summit to Como			1,775	6,285			
Williams	Olive to Mississippi		857					
Waltham	Laura to Prior	959						
Wilder	Iglehart to St. Anthony		1,388					
Whitall	Payne to Clark		2,301					
Walker	Hewitt to Great Northern Ry	807						
Wesley	Pascal to Fry	394	621					
Workhouse	Extension west of Lexington		687					
Wheeler street	Bayless to Eustis Court			1,012				
Westminster	Lookout Place to Case		384					
Wheeler ave	University to Shields		588					
Woodbridge	Atwater to Front		1,297					
York	Forrest to Cortland		5,782					
	Totals	28,363	434,102	94,890	78,350	34,450	15,389	1,560

High Service—

Total 4-inch pipe	28,363
Total 6-inch pipe	434,102
Total 12-inch pipe	94,890
Total 16-inch pipe	78,350
Total 20-inch pipe	34,450
Total 24-inch pipe	15,389
Total 36-inch pipe	1,560
	687,104 feet, or 130 miles 704 feet.

Total Pipe on High and Low Service to Dec. 1, 1890—

High service	687,104
Low service	333,202
	1,020,306 feet, or 193 miles 1,266 feet.

Also 4½ miles of brick aqueduct, 5½x6 feet, with necessary waste weirs and gate houses.

LIST OF HYDRANTS.

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
1	Woodward and Monroe	Low	Single	4	40
2	Grove and Lafayette	"	"	6	42
3	Westminster and Waverly	"	"	6	38
4	Westminster, 400 feet north of Waverly	"	"	6	39
5	Grove and Olive	"	"	6	40
6	John and Somerset	"	"	4	38
7	Olive and Somerset	"	"	4	38
8	Pine and Thirteenth	"	"	6	40
9	Thirteenth and Mississippi	"	"	6	39
10	Grove and Mississippi	"	"	20	40
11	Pine and Eleventh	"	"	4	41
12	Canada and Grove	"	"	6	37
13	Canada and Spruce	"	"	6	40
14	Grove, in mid. of block bet. Canada and Temperance	"	"	20	37
15	Jackson and Grove	"	"	6	32
16	Robert and Twelfth	"	"	6	30
17	Robert and Eleventh	"	"	6	29
18	Minnesota and Eleventh	"	"	6	29
19	Eleventh and Cedar	"	"	6	28
20	College and Wabasha	"	"	6	27
21	Wabasha and Tenth	"	"	6	29
22	St. Peter and Tenth	"	"	6	27
23	St. Peter and College	High	"	6	79
24	St. Peter and Summit	"	"	6	68
25	Tenth and College	Low	"	6	21
26	Tenth, between St. Peter and Fort	"	"	20	27
27	St. Peter and Exchange	"	"	6	31
28	Wabasha and Exchange	"	"	6	31
29	St. Peter and Ninth	"	"	6	33
30	Wabasha and Ninth	"	"	6	33
31	Jackson and Ninth	"	"	6	38
32	Ninth and Sibley	"	"	6	41
33	Ninth and Canada	"	"	6	43
34	Ninth and Pine	"	"	6	46
35	Ninth and John	"	"	6	44
36	Ninth and Locust	"	"	6	45
37	Eighth and Neill	"	"	4	46
38	Fifth and Locust	"	"	6	57
39	Eighth and Olive	"	"	4	45
40	Broadway and Eighth	"	"	6	44
41	Eighth and Wacouta	"	"	4	44
42	Jackson and Eighth, northeast corner	"	Double	12	43
43	Robert and Eighth	"	Single	6	43
44	Burr and Patridge	"	"	6	40
45	Burr and Hopkins	"	"	6	37
46	De Soto and Hopkins	"	"	6	38
47	Third and Smith avenue	"	"	6	31
48	Third and Pleasant	"	"	6	26
49	College and Third	High	"	6	71
50	Exchange and Sherman	Low	"	4	39
51	Walnut and Exchange	"	"	4	42
52	Sherman and Seventh	"	"	6	37
53	Seventh and Walnut, southeast corner	"	Double	20	41
54	Chestnut and Seventh, northeast corner	"	Single	6	38
55	Fort and Third	"	"	20	34
56	Fourth and Seventh	"	"	12	34
57	Seventh, back of Winslow House	"	"	12	34
58	Seventh and Fifth	"	"	12	33
59	Seventh and Franklin	"	"	12	32
60	Seventh and Sixth	"	"	12	33
61	Seventh and St. Peter	"	"	12	34
62	Seventh and Wabasha, northwest corner	"	"	16	35
63	Cedar and Seventh, northwest corner	"	"	12	41
64	Seventh and Minnesota, northwest corner	"	"	16	44
65	Seventh and Robert, northwest corner	"	Double	16	45
66	Jackson and Seventh, northwest corner	"	"	12	45
67	Seventh and Sibley, northwest corner	"	"	16	45
68	Seventh and Wacouta, northeast corner	"	"	16	44
69	Seventh and Rosabel, northwest corner	"	"	16	44
70	Broadway and Seventh, southwest corner	"	Single	16	44

LIST OF HYDRANTS—*Continued.*

No.	Location.	Service.	Double or Single Stemmer.	Size of Pipe.	Pressure at Hydrant
71	Seventh and Pine, southwest corner	Low	Double	16	63
72	Seventh and Olive, southwest corner	"	"	16	63
73	Seventh and Julia, southwest corner	"	"	16	65
74	Seventh and Locust, southwest corner	"	"	16	65
75	Seventh and Neill	"	Single	6	65
76	Willius and Sixth	"	"	4	50
77	Sixth and Pine	"	"	4	44
78	Jackson and Sixth, northeast corner	"	Double	12	65
79	Robert and Sixth	"	Single	6	65
80	Sixth and Minnesota	"	"	4	44
81	Sixth and Wabasha, northwest corner	"	"	4	44
82	Fifth and Washington	"	"	4	42
83	Fifth and Wabasha, northwest corner	"	"	4	40
84	Fifth and Cedar	"	"	4	42
85	Fifth and Minnesota	"	"	4	44
86	Robert and Fifth	"	"	4	44
87	Jackson and Fifth, southeast corner	"	Double	12	65
88	Fourth and Sibley, northeast corner	"	Single	6	54
89	Jackson and Fourth, southeast corner	"	Double	12	54
90	Fourth and Robert, northwest corner	"	Single	6	65
91	Fourth and Minnesota, northwest corner	"	"	4	65
92	Fourth and Wabasha	"	"	4	62
93	Washington and Fourth	"	"	4	62
94	Third and Exchange, northwest corner	"	"	12	62
95	Third, between Exchange and Franklin	"	"	12	65
96	Third and Franklin, northeast corner	"	"	12	62
97	Third and Washington, northeast corner	"	"	12	62
98	Third and Market, northeast corner	"	"	12	62
99	Washington and Eagle	"	"	4	62
100	Third and St. Peter, northeast corner	"	"	12	62
101	Wabasha and Third	"	"	12	62
102	Cedar and Third, northwest corner	"	"	12	62
103	Third and Minnesota, northeast corner	"	Double	12	62
104	Third and Robert, northwest corner	"	"	12	62
105	Third and Jackson, southwest corner	"	Single	12	62
106	Sibley and Third, southwest corner	"	Double	6	62
107	Jackson and Fourth	"	Single	6	62
108	Jackson and Fourth	"	"	12	62
109	Jackson and Seventh	"	"	12	62
110	Sibley and Fourth	"	"	4	62
111	St. Peter and Fifth	"	"	4	62
112	Sibley and Robert	"	"	4	62
113	Fourth and Wacouta	"	"	4	62
114	Mississippi and Neill	"	"	4	62
115	Broadway and Seventh	"	"	4	62
116	Broadway and Fourth	"	"	4	62
117	Sixth and Franklin	"	"	4	62
118	Sixth and Broadway	"	"	4	62
119	Fourth and St. Peter	"	"	4	62
120	Sixth and Broadway	"	"	4	62
121	Fourth and Franklin	"	"	4	62
122	Seventh and Fourth	"	"	12	62
123	Robert and Fifth	"	"	4	62
124	Robert and Fifth	"	"	4	62
125	Sibley and Fourth	"	"	4	62
126	Sixth and Wacouta	"	"	4	62
127	Jackson and Hawthorne	"	"	4	62
128	Seventh and Willis	"	"	4	62
129	Seventh and Nelson	"	"	4	62
130	Sibley and Fourth	"	"	4	62
131	[illegible]	"	"	4	62
132	Sixth and Sibley	"	"	4	62
133	Wabasha and Sixth	"	"	4	62
134	Sixth and Fourth	"	"	4	62
135	Sixth and Wabasha	"	"	4	62
136	Sixth and Wabasha	"	"	4	62
137	Sixth and Wabasha	"	"	4	62
138	Sixth and Wabasha	"	"	4	62
139	Sixth and Wabasha	"	"	4	62
140	Sixth and Wabasha	"	"	4	62
141	Sixth and Wabasha	"	"	4	62
142	Sixth and Wabasha	"	"	4	62
143	Sixth and Wabasha	"	"	4	62
144	Sixth and Wabasha	"	"	4	62
145	Sixth and Wabasha	"	"	4	62
146	Sixth and Wabasha	"	"	4	62
147	Sixth and Wabasha	"	"	4	62
148	Sixth and Wabasha	"	"	4	62
149	Sixth and Wabasha	"	"	4	62
150	Sixth and Wabasha	"	"	4	62
151	Sixth and Wabasha	"	"	4	62
152	Sixth and Wabasha	"	"	4	62
153	Sixth and Wabasha	"	"	4	62
154	Sixth and Wabasha	"	"	4	62
155	Sixth and Wabasha	"	"	4	62
156	Sixth and Wabasha	"	"	4	62
157	Sixth and Wabasha	"	"	4	62
158	Sixth and Wabasha	"	"	4	62
159	Sixth and Wabasha	"	"	4	62
160	Sixth and Wabasha	"	"	4	62
161	Sixth and Wabasha	"	"	4	62
162	Sixth and Wabasha	"	"	4	62
163	Sixth and Wabasha	"	"	4	62
164	Sixth and Wabasha	"	"	4	62
165	Sixth and Wabasha	"	"	4	62
166	Sixth and Wabasha	"	"	4	62
167	Sixth and Wabasha	"	"	4	62
168	Sixth and Wabasha	"	"	4	62
169	Sixth and Wabasha	"	"	4	62
170	Sixth and Wabasha	"	"	4	62
171	Sixth and Wabasha	"	"	4	62
172	Sixth and Wabasha	"	"	4	62
173	Sixth and Wabasha	"	"	4	62
174	Sixth and Wabasha	"	"	4	62
175	Sixth and Wabasha	"	"	4	62
176	Sixth and Wabasha	"	"	4	62
177	Sixth and Wabasha	"	"	4	62
178	Sixth and Wabasha	"	"	4	62
179	Sixth and Wabasha	"	"	4	62
180	Sixth and Wabasha	"	"	4	62

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
141	Fort and Ninth	Low	Single	20	29
142	Fort and Sixth	"	"	20	32
143	Fort and Fifth	"	"	20	33
144	Canada and Thirteenth	"	"	6	39
145	Thirteenth, between Canada and Temperance	"	"	6	37
146	Thirteenth and Temperance	"	"	6	36
147	Mississippi and Mt. Airy	"	"	6	33
148	Mississippi and Glencoe	"	"	6	30
149	Mississippi, between Glencoe and Pennsylvania	"	"	6	29
150	Mississippi and Pennsylvania	"	"	6	26
151	Pine and Nash	"	"	6	39
152	Olmsted and Pine	"	"	6	38
153	Olmsted and Olive	"	"	6	40
154	Olmsted and John	"	"	6	40
155	Ninth and Exchange	"	"	6	31
156	Ninth and Franklin	"	"	6	32
157	Wabasha and Summit	"	"	6	19
158	Robert and Tenth	"	"	6	30
159	Canada and Norris	"	"	6	35
160	Norris and Sibley	"	"	4	37
161	Spruce and Wacouta	"	"	4	40
162	Spruce and Sibley	"	"	4	38
163	College, between St. Peter and Tenth	"	"	6	22
164	Fourth and Wacouta	"	"	6	58
165	Sibley and Fifth	"	"	6	50
166	Walnut and Smith avenue	"	"	4	36
167	Fourth and Rosabel	"	"	6	62
168	Broadway, 150 feet south of Third	"	"	16	69
169	Third and Broadway, northeast corner	"	Double	12	67
170	Third and Rosabel	"	"	12	66
171	Third and Wacouta, northwest corner	"	"	12	64
172	Rice and Summit	High	Single	6	72
173	Fourth and Market	Low	"	6	32
174	Collins and Bedford	"	"	6	30
175	Burr and Collins	"	"	6	21
176	Tenth and Pine	"	"	6	43
177	Tenth and Olive	"	"	6	44
178	Tenth and John	"	"	6	43
179	Fourteenth and Canada	"	"	6	37
180	Fourteenth, between Canada and Jackson	"	"	6	37
181	Patridge and Bradley	"	"	4	38
182	Fourth and Broadway, northwest corner	"	"	6	62
183	Exchange and Sixth	"	"	4	32
184	North and Burr	"	"	6	30
185	North and De Soto	"	"	6	27
186	Rosabel and Fifth	"	"	6	55
187	Rosabel and Sixth	"	"	6	48
188	Pleasant and Sherman	"	"	6	33
189	Fourth and Jackson, northwest corner	"	"	6	51
190	John and Fourth	"	"	6	65
191	John and Fifth	"	"	6	56
192	John and Sixth	"	"	6	46
193	Bruno and Lafayette	"	"	6	40
194	Canada and University	"	"	6	30
195	Becker and Lafayette	"	"	6	33
196	Pleasant and Sixth	"	"	6	24
197	Jackson and Thirteenth	"	"	6	34
198	Jackson and Fourteenth	"	"	6	31
199	Wilkin and McBoal	"	"	6	36
200	Wacouta and Third	"	"	6	65
201	McBoal and Leech	"	"	6	35
202	Wacouta and Sixth	"	"	6	48
203	Wacouta and Fifth	"	"	6	52
204	Fifth and Broadway	"	"	4	53
205	Sixth and Broadway	"	"	4	50
206	Tenth and Minnesota	"	"	6	30
207	Tenth and Cedar, northeast corner	"	"	6	29
208	Jackson and University	"	"	6	23
209	Cedar and Eighth	"	"	12	40
210	Cedar and Exchange	"	"	12	32

LIST OF HYDRANTS—*Continued.*

No.	Location	Service	Double or Single Stramer	Size of Pipe	Pressure at Hydrant
211	Ninth and Minnesota	Low	Single	6	47
212	Wilkin and Smith	"	"	6	47
213	Fifth and Neill	"	"	6	59
214	Kittson and Fifth	"	"	6	61
215	Kittson and Sixth	"	"	6	56
216	Sixth and Neill	"	"	4	53
217	Otsego and Mt. Ida	"	"	6	15
218	Bradley and Woodward	"	"	6	41
219	Bradley and North	"	"	6	34
220	Hopkins and Bradley	"	"	6	36
221	South avenue and Chestnut	"	"	6	14
222	Bedford and Beaumont	"	"	6	34
223	Bedford and Minnehaha	"	"	6	78
224	Thompson and Beaumont	"	"	6	34
225	Thompson and Ramsey	"	"	6	15
226	South avenue and Smith	"	"	6	14
227	Fourth and Cedar	"	"	6	19
228	Eighth and Minnesota	"	"	4	41
229	Beaumont and Bradley	"	"	6	21
230	Beaumont and De Soto	"	"	6	21
231	Barr and Beaumont	"	"	6	19
232	Barr and Minnehaha	"	"	6	15
233	Barr and Fauquier	"	"	6	18
234	South avenue and Seventh	"	"	6	34
235	Fourth and Pine	"	"	12	39
236	Fourth and Olive	"	"	12	44
237	South street and Seventh	"	"	6	34
238	Fourth and Exchange	"	"	6	34
239	McBoal and Seventh	"	"	6	13
240	St. Peter and Sixth	"	"	6	13
241	Prince and Pine	"	"	6	67
242	Prince and Olive	"	"	6	67
243	Prince and Ohio	"	"	6	56
244	Mt. Airy and L'Orient, northeast corner	"	"	6	21
245	South avenue and Fifth	"	"	6	31
246	South avenue and Sixth	"	"	6	29
247	South avenue and Otsego	"	"	6	18
248	Douglas and Seventh	"	"	6	34
249	Goodrich and Seventh	"	"	6	34
250	Goodrich and South avenue	"	"	6	8
251	Goodrich and Sixth	"	"	6	41
252	Capitol and Mississippi	High	"	6	7
253	Genesee and Mississippi	"	"	6	9
254	Granite and Mississippi	"	"	6	34
255	Second and Pierce	Low	"	6	14
256	Pleasant and Ramsey	"	"	6	32
257	Ramsey and Douglas	"	"	6	34
258	Sherman and Charles	"	"	6	38
259	Chestnut and Exchange	"	"	6	40
260	Exchange and Jackson	"	"	4	34
261	Williams and Pine	High	"	6	13
262	Pine, between South and Williams	"	"	6	60
263	Topping and Ohio	"	"	6	56
264	Capitol and Western	"	"	6	54
265	Blair and Western	"	"	6	57
266	Thomas and Western	"	"	6	55
267	University and Western	"	"	12	56
268	Aurora and Western	"	"	6	54
269	Street and Western	"	"	6	52
270	Marion and Western	"	"	6	51
271	St. Anthony and Western	"	"	6	54
272	Dodge and Western	"	"	6	57
273	Carroll and Western	"	"	6	48
274	Kasota and Western	"	"	6	46
275	Marshall and Western	"	"	6	32
276	Pierce and Western	"	"	12	31
277	Western and Scott	"	"	12	32
278	Western and Forest	"	"	12	31
279	Western and Garland	"	"	12	33
280	Western and Irvine	"	"	12	34

LIST OF HYDRANTS — *Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
281	Western and Portland	High	Single	12	34
282	Summit and Portland	"	"	12	34
283	Summit and Arundel	"	"	12	31
284	Summit and Mackubin	"	"	12	30
285	Summit and Kent	"	"	12	36
286	Summit and Oakland	"	"	12	35
287	Holly and Dale	"	"	6	36
288	Holly and Kent	"	"	6	34
289	Holly and Mackubin	"	"	6	32
290	Holly and Arundel	"	"	6	33
291	Ashland and Arundel	"	"	6	32
292	Ashland and Mackubin	"	"	6	30
293	Ashland and Kent	"	"	6	33
294	Ashland and Dale	"	"	6	37
295	Laurel and Dale, northeast corner	"	"	6	35
296	Laurel and Kent	"	"	6	31
297	Laurel and Mackubin, northwest corner	"	"	6	30
298	Laurel and Arundel	"	"	6	30
299	Dayton and Dale	"	"	12	30
300	Dayton and Kent	"	"	12	28
301	Dayton and Mackubin	"	"	12	29
302	Dayton and Arundel	"	"	12	33
303	Dayton and Virginia	"	"	12	30
304	Dayton and Farrington	"	"	12	30
305	Dayton, between Summit and Farrington	"	"	12	31
306	Summit and Dayton	"	"	6	43
307	Summit and Selby	"	"	6	37
308	Summit, head of Walnut	"	"	6	37
309	Summit and Nina	"	"	6	33
310	Summit and Farrington	"	"	6	31
311	Summit and Virginia	"	"	6	33
312	Farrington and Laurel	"	"	6	32
313	Farrington and Selby avenue	"	"	6	31
314	Selby and Nina	"	"	6	32
315	Nina and Laurel	"	"	6	32
316	Westminster, 200 feet south of Great Northern Ry.	Low	"	6	30
317	Thirteenth and Broadway	"	"	6	39
318	Temperance and Norris	"	"	4	37
319	Banfil and Seventh	"	"	4	33
320	Goodhue and Seventh	"	"	6	33
321	Yankee and Seventh	"	"	4	34
322	Western and Seventh	"	"	6	35
323	St. Clair and Seventh	"	"	6	34
324	Richmond and Seventh	"	"	6	34
325	Seventh and Colborne	"	"	16	36
326	Chestnut and Franklin	"	"	6	52
327	Twelfth and Jackson	"	"	20	32
328	Twelfth and Minnesota	"	"	20	29
329	Twelfth and Cedar	"	"	20	27
330	Cedar and Summit	"	"	6	23
331	Chestnut and Washington	"	"	6	62
332	Laurel and Virginia	High	"	6	32
333	Selby and Virginia	"	"	6	32
334	Mackubin and Laurel, southwest corner	"	"	6	30
335	Portland and Arundel	"	"	6	32
336	Portland and Mackubin	"	"	6	29
337	Portland and Kent	"	"	6	34
338	Portland and Dale	"	"	6	34
339	Selby and Arundel	"	"	6	33
340	Selby and Mackubin	"	"	6	29
341	Selby and Kent	"	"	6	29
342	Selby and Dale	"	"	6	31
343	Carroll and Arundel	"	"	6	36
344	Carroll and Mackubin	"	"	6	34
345	Carroll and Kent	"	"	6	30
346	Kent and Iglehart	"	"	4	29
347	Marshall and Dale	"	"	6	31
348	Marshall and Kent	"	"	6	27
349	Marshall and Mackubin	"	"	6	31
350	Rondo and Arundel	"	"	6	55

LIST OF HYDRANTS — *Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
351	Rondo and Mackubin	High	Single	6	42
352	Iglehart and Arundel	"	"	6	31
353	Iglehart and Mackubin	"	"	6	33
354	Marshal and Arundel	"	"	6	31
355	McBeal and Douglas	Low	"	6	33
356	Douglas and Harrison	"	"	6	33
357	Summit and Third	High	"	12	50
358	Summit and Nelson	"	"	12	52
359	College and Sixth	"	"	6	70
360	Nelson and Virginia	"	"	6	30
361	Nelson and Farrington	"	"	6	31
362	Nelson and Louis	"	"	6	43
363	Nelson and Summit Place	"	"	6	48
364	Carroll and Virginia	"	"	6	48
365	Carroll and Farrington	"	"	6	50
366	Carroll and Louis	"	"	6	56
367	Carroll and Summit Place	"	"	6	60
368	Carroll and Ravoux	"	"	6	63
369	Park Place Park	"	"	4	67
370	Iglehart and Virginia	"	"	6	39
371	Iglehart and Farrington	"	"	6	40
372	Iglehart and Louis	"	"	6	50
373	Douglas and Lisbon	Low	"	6	35
374	Iglehart and St. Peter	High	"	6	65
375	Iglehart and Wabasha	"	"	6	72
376	Iglehart and Summit Place	"	"	6	54
377	Iglehart and Ravoux	"	"	6	63
378	Iglehart and Rice	"	"	6	68
379	Rice and Rondo	"	"	16	65
380	Rice and St. Anthony	"	"	16	57
381	Rice and Martin	"	"	16	56
382	Rice and Fuller	"	"	16	57
383	Rice and Aurora	"	"	16	57
384	Rice and University	"	"	20	54
385	Rice and Eileen	"	"	20	53
386	Rice and Charles	"	"	20	55
387	Rice and Edmund	"	"	20	56
388	Rice and Como	"	"	12	56
389	Tilton and St. Peter	"	"	6	61
390	Smith avenue and Ramsey	Low	"	6	35
391	St. Peter and Martin	High	"	6	60
392	Martin and Park	"	"	6	62
393	Central and Wabasha	"	"	6	66
394	Tilton and Wabasha	"	"	6	67
395	Central and Cedar	"	"	6	60
396	Aurora and Cedar	"	"	6	53
397	Aurora and Robert	"	"	6	67
398	Smith avenue and Sherman	Low	"	6	36
399	Bradley and Seventh, northwest corner	"	"	6	40
400	Broadway and Fourteenth	"	"	4	38
401	Summit and Dale	High	"	12	33
402	Seventh and Brook	Low	"	6	49
403	Tenth and Cedar, northwest corner	"	"	20	29
404	Grand and Lawton	High	"	6	34
405	Grand and Floral	"	"	6	31
406	Grand and Oak land	"	"	6	46
407	Grand and Dale	"	"	6	38
408	Grand and St. Albans	"	"	6	37
409	Summit and Broadway	"	"	16	86
410	Grand and [illegible]	"	"	6	33
411	Grand and Avon	"	"	6	31
412	Grand and Nelson	"	"	6	32
413	Summit and Western	"	"	12	59
414	Summit and [illegible]	"	"	12	57
415	Summit and Farrington	"	"	12	57
416	Summit and Nelson	"	"	12	57
417	Marshall and St. Albans	"	"	12	35
418	Summit and Avon	"	"	12	38
419	Dayton and St. Albans	"	"	6	33
420	Dayton and [illegible]	"	"	6	33

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
421	Dayton and Miller	High	Single	6	31
422	Dayton and Fisk	"	"	6	34
423	St. Peter and Aurora	"	"	6	54
424	St. Peter and University	"	"	6	53
425	Park and University	"	"	6	52
426	Cedar and University	"	"	6	45
427	Cedar and Sherburne	"	"	6	35
428	Sherburne, 350 feet east of Cedar	"	"	4	36
429	Hoffman and Seventh	"	"	6	83
430	Fourth, 400 feet west of Maria	"	"	6	89
431	Maria and Seventh	"	"	6	69
432	Maria and Sixth	"	"	6	68
433	Maria and Fifth	"	"	6	67
434	Maria and Fourth	"	"	6	69
435	Maria and Third	"	"	6	70
436	Maria and Conway	"	"	6	72
437	Maria and Ravine	"	"	6	73
438	Maria and Euclid	"	"	6	74
439	Maria and Hudson	"	"	6	73
440	Bates and Plum	"	"	12	66
441	Bates and Hudson	"	"	12	63
442	Bates and Euclid	"	"	12	61
443	Bates and Ravine	"	"	12	59
444	Bates and Conway	"	"	12	59
445	Bates and Third	"	"	12	62
446	Bates and Fourth	"	"	12	60
447	Bates and Fifth	"	"	12	57
448	Bates and Sixth	"	"	12	55
449	Bates and Seventh	"	"	12	60
450	Fifth and Maple	"	"	6	44
451	Third and Maple	"	"	6	46
452	Hudson and Maple	"	"	6	47
453	Valley and Canada	"	"	16	75
454	Seventh and Maple	"	"	16	48
455	Seventh and Hope, northwest corner	"	"	16	40
456	Seventh and Margaret	"	"	16	42
457	Seventh and Beech	"	"	16	48
458	Goodhue and Dousman	Low	"	6	40
459	Goodhue and Cliff	"	"	6	39
460	Grace and Colborne	"	"	6	36
461	Colborne and Jefferson	"	"	6	38
462	Duke and Seventh	"	"	6	35
463	Seventh and Minnehaha, northwest corner	High	"	16	55
464	Seventh and Reaney	"	"	16	52
465	Seventh and Forrest	"	"	16	52
466	Nash and L'Orient	Low	"	6	37
467	Jessie and Fauquier	"	"	6	21
468	Seventh and Erie	"	"	16	36
469	Seventh and Fauquier	High	"	16	56
470	Seventh and Cypress	"	"	16	60
471	Seventh and Ross	"	"	16	62
472	Seventh and Earl	"	"	16	64
473	Ross and Earl	"	"	6	59
474	Edmund and Marion	"	"	6	58
475	Fauquier and Cypress	"	"	6	57
476	Fauquier and Earl	"	"	6	56
477	Fauquier and Payne	Low	"	12	10
478	Fauquier and Edgerton	"	"	12	19
479	Fauquier and Bradley	"	"	12	22
480	De Soto and Fauquier	"	"	12	24
481	De Soto and Minnehaha	"	"	12	13
482	Fifth, 350 feet west of Maria	High	"	6	78
483	Fauquier and Forrest	"	"	6	55
484	Fauquier and Mendota	"	"	6	63
485	Fauquier and Arcade	"	"	6	61
486	Lincoln, between Oakland and Dale	"	"	6	39
487	Lincoln and Dale	"	"	6	36
488	Hoffman and Sixth	"	"	6	83
489	Mendota and Reaney	"	"	6	59
490	Ninth and Broadway	Low	"	6	44

LIST OF HYDRANTS—Continued.

No.	Location.	Maker.	Date of setting.	Size of pipe.	Pressure.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
561	Rice and Arch	High	Single	12	56
562	Rice and Pennsylvania	"	"	12	57
563	Rondo and Ravoux	"	"	6	63
564	Rondo and Summit Place	"	"	6	62
565	Williams and Olive	"	"	6	79
566	Olive and Pennsylvania	"	"	6	58
567	Rondo and Louis	"	"	6	60
568	Rondo and Farrington	"	"	6	58
569	Ninth and Smith avenue	Low	"	6	23
570	Franklin and Sixth	"	"	4	33
571	Rondo and Virginia	High	"	6	57
572	Mendota and Beech	"	"	12	54
573	Kittson and Fourth	Low	"	6	68
574	Valley and Warren	High	"	16	51
575	Robert and Valley	"	"	6	...
576	Mendota and Dawson	"	"	12	44
577	Mendota and Frances	"	"	12	40
578	Mendota and East Fourth	"	"	12	48
579	Mt. Airy and Broadway	"	"	6	56
580	Fourth and Neil	Low	"	12	67
581	Fourth and Willius	"	"	12	66
582	Fourth and Locust	"	"	12	66
583	Mendota and Fremont	High	"	12	50
584	Mendota and Conway	"	"	12	53
585	Euclid and Forrest	"	"	6	57
586	Euclid and Mendota	"	"	6	55
587	Third and Cypress	"	"	6	47
588	Third and Forrest	"	"	6	50
589	Third and Mendota	"	"	6	52
590	Third and Arcade	"	"	6	44
591	Hudson and Mendota	"	"	12	49
592	Mt. Airy and Linden	"	"	6	40
593	Mt. Airy and Warren	"	"	6	38
594	Maple and Euclid	"	"	6	48
595	Mt. Airy and Robert	"	"	6	...
596	Webster and Palace	Low	"	6	34
597	Maple and Ravine	High	"	6	50
598	Fourth and Broadway, northeast corner	Low	"	12	61
599	Maple and Conway	High	"	6	49
600	Viola and Brewster	"	"	6	38
601	Maple and Fourth	"	"	6	41
602	Viola and Park	"	"	6	56
603	Maple and Sixth	"	"	6	50
604	Margaret and Arcade	"	"	6	41
605	Margaret and Mendota	"	"	6	52
606	Sherburne and Marion	"	"	6	58
607	Granite and Cortland	"	"	6	60
608	Granite and Agate	"	"	6	63
609	Granite and Beaver	"	"	6	74
610	Margaret and Forrest	"	"	6	49
611	Sherburne and Gaultier	"	"	6	58
612	Sherburne and Farrington	"	"	6	57
613	Sherburne and Virginia	"	"	6	57
614	Margaret and Cypress	"	"	6	46
615	Margaret and Earl	"	"	6	62
616	Mississippi and Case	Low	"	6	30
617	Mississippi and Jenks	"	"	6	28
618	Mississippi and Lawson	"	"	6	27
619	Mississippi and Cook	"	"	6	24
620	Mississippi and Magnolia	"	"	6	20
621	Mississippi and Jessamine	"	"	6	20
622	Robert and Thirteenth	"	"	6	29
623	Capitol and Buffalo	High	"	6	64
624	Capitol and Elk	"	"	6	67
625	Capitol and Cortland	"	"	6	68
626	University and Mackubin	"	"	12	51
627	University and Kent	"	"	12	48
628	University and Dale	"	"	12	45
629	Central avenue, north of Central Park	"	"	6	78
630	Central Drive, East, and Central avenue	"	"	4	84

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
631	Genesee and Buffalo	High	Single	6	65
632	Sherburne and Western	"	"	6	58
633	Sherburne and Arundel	"	"	6	57
634	Sherburne and Mackubin	"	"	6	53
635	Sherburne and Kent	"	"	6	49
636	Aurora and Virginia	"	"	6	56
637	Fourteenth and Robert	Low	"	6	20
638	Payne and Minnehaha	"	"	6	21
639	Reaney and Payne	"	"	6	17
640	Reaney and Edgerton	"	"	6	14
641	Eagle and Spring	"	"	6	68
642	Charles and Marion	High	"	6	58
643	Charles and Gaultier	"	"	6	57
644	Charles and Elfelt	"	"	6	56
645	Charles and Farrington	"	"	6	56
646	Charles and Virginia	"	"	6	56
647	Charles and Western	"	"	6	57
648	Virginia and Marshall	"	"	4	31
649	Decatur and Bedford	Low	"	6	27
650	Decatur and Edgerton	"	"	6	43
651	Beaumont and Preble	"	"	6	27
652	Oakland and Lincoln	High	"	6	47
653	Oakland and Floral	"	"	6	54
654	Oakland and Lawton	"	"	6	65
655	Oakland and Western	"	"	6	81
656	Wabasha, at end of bridge	Low	"	6	64
657	Wabasha and Fillmore	"	"	6	67
658	Wabasha and Fairfield	"	"	6	68
659	Wabasha and Indiana, southwest corner	"	"	6	69
660	Wabasha and Chicago	"	"	6	68
661	Wabasha and Channel	"	"	6	67
662	Toronto and Seventh	"	"	6	34
663	James and Seventh	"	"	6	34
664	Randolph and Seventh	"	"	6	33
665	Warsaw and Seventh	"	"	6	32
666	Audubon and Seventh	"	"	6	32
667	Summit and St. Albans	High	"	12	36
668	Carroll and Victoria	"	"	6	45
669	Carroll and Milton	"	"	6	39
670	Western and St. Clair	Low	"	6	37
671	Armstrong and Seventh	"	"	6	33
672	Bay and Seventh	"	"	6	33
673	Lee and Seventh	"	"	6	33
674	Jefferson and Oneida	"	"	12	33
675	Jefferson and Webster	"	"	12	34
676	Webster, 300 feet north of Jefferson	"	"	6	30
677	Maria and Plum	High	"	6	73
678	Maria and Cherry	"	"	6	72
679	Robert, 200 feet north of University	"	"	6	67
680	Grotto and Summit	"	"	6	32
681	Grotto and Portland	"	"	6	31
682	Hoffman and Cherry	"	"	6	77
683	Minnesota and Seventh, southeast corner	Low	"	6	44
684	Dayton and Victoria	High	"	6	32
685	Minnesota and Fourth, southeast corner	Low	Double	6	45
686	Selby and Grotto	High	Single	6	33
687	Selby and Miller	"	"	6	31
688	Selby and Fisk	"	"	6	32
689	Selby and Victoria	"	"	6	31
690	Hoffman and McLean	"	"	6	76
691	Hoffman and Lizzie	"	"	6	74
692	Hoffman and River	"	"	6	73
693	Portland and Avon	"	"	6	29
694	Margaret and Hope	"	"	6	43
695	Margaret and Greenbrier	"	"	6	46
696	Hoffman and Clermont	"	"	6	72
697	Cherry, 200 feet south of Hoffman	"	"	4	89
698	Ramsey and Western	"	"	6	55
699	Oakland and Ramsey	"	"	6	86
700	Fourth and Arcade	"	"	6	44

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
701	Western & Milwaukee Short Line	Low	Single	6	41
702	Goodrich, 750 feet east of Dale	High	"	6	37
703	Dale and Goodrich	"	"	12	37
704	Sixth, 500 feet west of Maria	"	"	6	83
705	Ninth and Olive	Low	"	6	45
706	Ninth and Neill	"	"	4	43
707	Sixth and Hope	High	"	6	40
708	Martin and Kent	"	"	6	44
709	Jackson and Valley	"	"	6	48
710	Martin and Mackubin	"	"	6	40
711	Greenbrier and North	"	"	12	53
712	Greenbrier and Maury	"	"	12	49
713	Sherburne and Park	"	"	6	51
714	Third and Jackson, northwest corner	Low	Double	6	53
715	St. Anthony and Dale	High	Single	6	30
716	St. Anthony and Kent	"	"	6	39
717	Arcade and Minnehaha	"	"	12	53
718	St. Anthony and Mackubin	"	"	6	44
719	St. Anthony and Arundel	"	"	6	46
720	St. Anthony and Virginia	"	"	6	53
721	St. Anthony and Farrington	"	"	6	57
722	Wabasha and Park	"	"	4	59
723	St. Anthony and Jay	"	"	6	61
724	St. Anthony and Louis	"	"	6	60
725	St. Anthony and Ravoux	"	"	6	61
726	Sherburne and Brewster	"	"	6	42
727	Brewster and University	"	"	6	48
728	Harrison and Western	Low	"	6	33
729	Martin and Virginia	High	"	6	54
730	Martin and Farrington	"	"	6	57
731	Pennsylvania and L'Orient	Low	"	6	33
732	Martin and Jay	High	"	6	59
733	Martin and Louis	"	"	6	59
734	Glencoe and L'Orient	Low	"	6	31
735	Glencoe and Columbia	"	"	6	27
736	Arcade and Wells	High	"	12	56
737	Arcade and York	"	"	12	50
738	Arcade and Sims	"	"	12	46
739	Arcade and Case	"	"	12	48
740	Arcade and Jenks	"	"	12	46
741	Arcade and Lawson	"	"	12	45
742	Arcade and Cook	"	"	12	42
743	Arcade and Magnolia	"	"	12	43
744	Arcade in front of Bohn Mnfg Co.	"	"	12	60
745	Fauquier and Weide	"	"	6	58
746	Reaney and Weide	"	"	6	62
747	Reaney and Arcade	"	"	6	56
748	Edmund and Gaultier	"	"	6	57
749	Edmund and Elfelt	"	"	6	56
750	Edmund and Farrington	"	"	6	55
751	Edmund and Virginia	"	"	6	55
752	Edmund and Western	"	"	6	56
753	Como and Thomas	"	"	20	56
754	Como and Claghorn	"	"	20	58
755	Como and Lafond	"	"	20	59
756	Como and Gaultier	"	"	20	61
757	Aurora and Marion	"	"	6	59
758	Aurora and Jay	"	"	6	57
759	Aurora and Farrington	"	"	6	59
760	Preble and Minnehaha	Low	"	6	20
761	Payne and Beaumont	"	"	6	27
762	Thomas and Arundel	High	"	6	58
763	Thomas and Mackubin	"	"	6	57
764	Conway and Arcade	"	"	6	49
765	Conway and Forrest	"	"	6	51
766	Thomas and Kent	"	"	6	52
767	Thomas and Dale	"	"	6	47
768	Frances and Arcade	"	"	6	45
769	River and Maria	"	"	4	68
770	Duke and Jefferson	Low	"	6	37

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	Service.	Double or Single Steamer.	Size of Pipe.	Pressure at Hydrant
771	Duke and Cascade	Low	Single	6	44
772	Blair and Arundel	High	"	6	56
773	Blair and Mackubin	"	"	6	57
774	Blair and Kent	"	"	6	55
775	Blair and Dale	"	"	6	52
776	Iglehart and Dale	"	"	6	30
777	Fairfield and Starkey	Low	"	6	69
778	Fairfield and Custer	"	"	6	68
779	Jackson and Winter	High	"	12	53
780	Jackson and Arch	"	"	12	56
781	Jackson and Pennsylvania	"	"	12	60
782	Fairfield and Hubert	Low	"	6	67
783	Fairfield and Robert	"	"	6	65
784	Fairfield and Eaton	"	"	6	66
785	Fairfield and Eva	"	"	6	67
786	Fairfield and Robertson	"	"	6	68
787	Fairfield and State	"	"	6	69
788	Como and Elfelt	High	"	20	60
789	Como and Van Buren	"	"	20	61
790	Como and Minnehaha	"	"	20	59
791	Como and Virginia	"	"	20	54
792	Como and Western	"	"	20	51
793	Indiana, between Wabasha and Starkey	Low	"	12	69
794	Front and Dale, northeast corner	High	"	12	41
795	Front and Kent	"	"	12	51
796	Front and Mackubin	"	"	12	58
797	Front and Arundel	"	"	12	53
798	Front and Western	"	"	12	45
799	Randolph and Bay	Low	"	12	31
800	Randolph and View	"	"	12	30
801	Front and Hand	High	"	12	42
802	Front and Farrington	"	"	12	44
803	Front and Matilda	"	"	12	47
804	Front and Gaultier	"	"	12	52
805	Fillmore and State	Low	"	6	60
806	Front and Marion	High	"	12	59
807	Front and Woodbridge	"	"	12	60
808	Front and Albemarle	"	"	12	60
809	Front and Rice	"	"	12	60
810	Lincoln and Victoria	"	"	6	31
811	Lincoln and Milton	"	"	6	34
812	Grand and Milton	"	"	6	33
813	Hague and Victoria	"	"	6	32
814	Dousman and Yankee	Low	"	6	38
815	Indiana and State	"	"	16	69
816	Indiana and Robertson	"	"	16	68
817	Indiana and Eva	"	"	16	68
818	Eaton and Indiana	"	"	16	68
819	Indiana and Robert	"	"	16	68
820	Indiana and Hubert	"	"	16	68
821	Indiana and Custer	"	"	16	68
822	Indiana and Starkey	"	"	16	69
823	Milwaukee freight yard	"	"	16	69
824	Summit and Minnesota	"	"	6	27
825	Wabasha and Wood	"	"	6	64
826	Wabasha and Colorado	"	"	6	57
827	Wabasha and Delos	"	"	6	53
828	Isabel and State	"	"	12	53
829	Isabel and Greenwood	"	"	12	49
830	Isabel and Clinton	"	"	12	52
831	Isabel and Robert	"	"	12	53
832	Isabel and Livingston	"	"	12	54
833	Isabel and Starkey	"	"	12	54
834	Isbel and Wabasha	"	"	12	49
835	Isabel and Goff	"	"	12	40
836	Isabel and Hall	"	"	12	22
837	Isabel and Stryker	"	"	12	20
838	Isabel and Winslow	"	"	12	21
839	Concord and Bancroft	"	"	12	54
840	Concord and Anita	"	"	12	53

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
841	Concord and Ada	Low	Single	12	50
842	Concord and State	"	"	12	49
843	Concord and Robie	"	"	12	50
844	Concord and Winifred	"	"	12	53
845	Concord and Congress	"	"	12	54
846	Concord and Omega	"	"	12	56
847	John and Williams	"	"	6	35
848	Western and Superior	"	"	6	32
849	Robert and Fillmore	"	"	6	61
850	Congress and Robert	"	"	6	54
851	Congress and Clinton	"	"	6	52
852	Congress and Greenwood	"	"	6	50
853	Congress and State, northwest corner	"	"	6	50
854	Minnehaha and Edgerton	"	"	6	19
855	Robie and State	"	"	6	52
856	Robie and Ada	"	"	6	53
857	Robie and Anita	"	"	6	56
858	Robie and Bancroft	"	"	6	58
859	Winifred and State	"	"	6	51
860	Winifred and Ada	"	"	6	52
861	Winifred and Anita	"	"	6	51
862	Winifred and Bancroft	"	"	6	52
863	Congress and State, northeast corner	"	"	6	50
864	Congress and Ada	"	"	6	50
865	Congress and Anita	"	"	6	50
866	Congress and Dunedin Terrace	"	"	6	50
867	Congress and Bancroft	"	"	6	50
868	Hoffman and Short	High	"	6	76
869	Sixth and Washington	Low	"	6	33
870	Lee and Drake	"	"	6	43
871	Lee and Warsaw	"	"	6	39
872	Lee and Bay	"	"	6	35
873	Western and Banfil	"	"	6	31
874	Von Minden and Dousman	"	"	6	35
875	Von Minden and Ann	"	"	6	34
876	Minnehaha and Bradley	"	"	6	17
877	Fillmore and Starkey	"	"	6	68
878	Brewster and Como	High	"	6	41
879	Mt. Airy and L'Orient, northwest corner	"	"	6	80
880	Sherburne and Dale	"	"	6	46
881	Fillmore and Custer	Low	"	6	66
882	Fillmore and Hubert	"	"	6	63
883	Fillmore and Eaton	"	"	6	62
884	Fillmore and Eva	"	"	6	65
885	Fillmore and Robertson	"	"	6	67
886	Woodward and Burr	"	"	4	44
887	Wabasha and Congress	"	"	6	46
888	Wabasha and Goff	"	"	6	41
889	Congress and Omega	"	"	6	49
890	Reaney and Walsh	High	"	6	70
891	Reaney and Greenbrier	"	"	6	72
892	Euclid and Cypress	"	"	6	48
893	Euclid and Earl	"	"	6	43
894	Livingston and Wood	Low	"	6	57
895	Colorado and Parnell	"	"	6	53
896	Colorado and Livingston	"	"	6	53
897	Colorado and South Robert	"	"	6	54
898	Colorado and Clinton	"	"	6	55
899	South Robert and Wood	"	"	6	57
900	Carroll and St. Albans	High	"	6	36
901	Carroll and Grotto	"	"	6	35
902	Carroll and Miller	"	"	6	38
903	Carroll and Fisk	"	"	6	43
904	Concord and Brown	Low	"	12	57
905	Concord and Andrew	"	"	12	60
906	Iglehart and St. Albans	High	"	6	36
907	Iglehart and Grotto	"	"	6	33
908	Iglehart and Miller	"	"	6	36
909	Iglehart and Fisk	"	"	6	40
910	Iglehart and Victoria	"	"	6	39

LIST OF [illegible]—Continued.

No.	Location	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
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LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
981	Fuller and Dale	High	Single	6	42
982	Rondo and Dale	"	"	6	29
983	Payne and Case	"	"	6	66
984	Payne and Jenks	"	"	6	65
985	Payne and Lawson	"	"	6	64
986	Cook and Payne	"	"	6	61
987	Case and Greenbrier	"	"	12	50
988	Case and Edgerton	"	"	12	73
989	Martin and Dale	"	"	6	40
990	Colborne and Superior	Low	"	6	32
991	Colborne and Michigan	"	"	6	32
992	Case and Jessie	High	"	12	73
993	Case and Bradley	"	"	12	67
994	Case and Burr	"	"	12	66
995	Case and De Soto	"	"	12	66
996	Case and Arkwright	"	"	12	60
997	Case and McMenemy	"	"	12	62
998	Burr and Jenks	"	"	6	66
999	Burr and York	"	"	6	63
1000	Burr and Whitall	"	"	6	60
1001	Burr and Omaha Ry	"	"	6	66
1002	Charles and Mackubin	"	"	6	55
1003	Charles and Kent	"	"	6	51
1004	Charles and Dale	"	"	6	48
1005	Charles and St. Albans	"	"	6	47
1006	Edmund and St. Albans	"	"	6	48
1007	Edmund and Grotto	"	"	6	50
1008	Lafond and St. Albans	"	"	6	48
1009	Lafond and Grotto	"	"	6	51
1010	Van Buren and Dale	"	"	6	54
1011	Minnehaha and Dale	"	"	6	54
1012	Payne and Omaha Ry	"	"	6	63
1013	Payne and Ross	"	"	6	65
1014	Payne and Whitall	"	"	6	63
1015	Payne and Wells	"	"	6	61
1016	York and Edgerton	"	"	6	75
1017	York and Payne	"	"	6	62
1018	York and Greenbrier	"	"	6	48
1019	Sims and Greenbrier	"	"	6	49
1020	Sims and Payne	"	"	6	64
1021	Tuscarora and West Seventh	Low	"	6	33
1022	Sims and Weide	High	"	6	35
1023	Sims and Walsh	"	"	6	41
1024	York and Weide	"	"	6	33
1025	York and Walsh	"	"	6	40
1026	University and St. Albans	"	"	20	48
1027	University and Grotto	"	"	20	47
1028	University and Avon	"	"	20	47
1029	University and Victoria	"	"	20	46
1030	York and Mendota	"	"	6	53
1031	York and Forrest	"	"	6	57
1032	Forrest and Wells	"	"	6	64
1033	Forrest and Sims	"	"	6	51
1034	Beech and Cypress	"	"	6	56
1035	University and Milton	"	"	20	47
1036	University and Chatsworth	"	"	20	57
1037	University and Oxford	"	"	20	50
1038	University and Lexington	"	"	20	45
1039	Park avenue and Aurora	"	"	6	59
1040	Daly and James	Low	"	6	34
1041	Daly and Palace	"	"	6	32
1042	Daly and Jefferson	"	"	6	32
1043	Third and Pine	"	Double	12	68
1044	Third and Olive	"	"	12	69
1045	Third and John	"	"	12	69
1046	Laurel and Fisk	High	Single	6	31
1047	Summit Court	"	"	6	34
1048	Third and Broadway, northeast corner	Low	Double	12	67
1049	Third and Wacouta, northeast corner	"	"	12	64
1050	Sibley and Third, northeast corner	"	"	12	62

LIST OF HYDRANTS — *Continued.*

No.	Location	Service	Double or Single Stream.	Size of Pipe.	Pressure at Hydrant
1081	Goodrich and St. Albans	High	Single	[illegible]	[illegible]
1082	Goodrich and Grotto	[illegible]	[illegible]	[illegible]	[illegible]
1083	Goodrich and Avon	[illegible]	[illegible]	[illegible]	[illegible]
1084	Goodrich and Victoria	[illegible]	[illegible]	[illegible]	[illegible]
1085	State and Marion	Low	[illegible]	[illegible]	[illegible]
1086	State and Champlain	[illegible]	[illegible]	[illegible]	[illegible]
1087	State and Eaton	[illegible]	[illegible]	[illegible]	[illegible]
1088	State and Delos	[illegible]	[illegible]	[illegible]	[illegible]
1089	Mound and Hastings	High	[illegible]	[illegible]	[illegible]
1090	Mound, 300 feet South of Hastings	[illegible]	[illegible]	[illegible]	[illegible]
1091	Mound and McLean	[illegible]	[illegible]	[illegible]	[illegible]
1092	Mound and Clark	[illegible]	[illegible]	[illegible]	[illegible]
1093	Garfield and Lisbon	Low	[illegible]	[illegible]	[illegible]
1094	Palmyra and Bell	High	[illegible]	[illegible]	[illegible]
1095	Kenwood Park, north side	[illegible]	[illegible]	[illegible]	[illegible]
1096	Kenwood Park, south side	[illegible]	[illegible]	[illegible]	[illegible]
1097	Pine and Poplar Streets	[illegible]	[illegible]	[illegible]	[illegible]
1098	Palmyra and St. Albans	[illegible]	[illegible]	[illegible]	[illegible]
1099	Palmyra and Grotto	[illegible]	[illegible]	[illegible]	[illegible]
1070	Seventh and Wabash, southeast corner	Low	Double	[illegible]	[illegible]
1071	Seventh and Cedar, northeast corner	[illegible]	[illegible]	[illegible]	[illegible]
1072	Seventh and Minnesota, northeast corner	[illegible]	[illegible]	[illegible]	[illegible]
1073	Seventh and Robert, northeast corner	[illegible]	[illegible]	[illegible]	[illegible]
1074	Dalesville and Grigg	High	Single	[illegible]	[illegible]
1075	Dalesville and Hamilton	[illegible]	[illegible]	[illegible]	[illegible]
1076	Dalesville and Pierce	[illegible]	[illegible]	[illegible]	[illegible]
1077	Dalesville and Sterling	[illegible]	[illegible]	[illegible]	[illegible]
1078	Dalesville and Allen	[illegible]	[illegible]	[illegible]	[illegible]
1079	Dalesville and Wheeler	[illegible]	[illegible]	[illegible]	[illegible]
1080	Dalesville and Fairview	[illegible]	[illegible]	[illegible]	[illegible]
1081	Dalesville and Prior, northeast corner	[illegible]	[illegible]	[illegible]	[illegible]
1082	Lacey and Dalesville	[illegible]	[illegible]	[illegible]	[illegible]
1083	Lacey and Waldron	[illegible]	[illegible]	[illegible]	[illegible]
1084	Pemple and Lacey	[illegible]	[illegible]	[illegible]	[illegible]
1085	Pemple and Cornelius Place	[illegible]	[illegible]	[illegible]	[illegible]
1086	Cornelius Place and Dalesville	[illegible]	[illegible]	[illegible]	[illegible]
1087	Cornelius and Dalesville	[illegible]	[illegible]	[illegible]	[illegible]
1088	Cornelius, 200 feet north of Cornelius	[illegible]	[illegible]	[illegible]	[illegible]
1089	Dalesville and Prior	[illegible]	[illegible]	[illegible]	[illegible]
1090	Pemple and Fairview	[illegible]	[illegible]	[illegible]	[illegible]
1091	Waldron, 300 feet east of Prior	[illegible]	[illegible]	[illegible]	[illegible]
1092	Dalesville avenue and Morton	[illegible]	[illegible]	[illegible]	[illegible]
1093	Dalesville avenue and Arcadia	[illegible]	[illegible]	[illegible]	[illegible]
1094	St. Anthony and Dorchester	[illegible]	[illegible]	[illegible]	[illegible]
1095	St. Anthony and Howell	[illegible]	[illegible]	[illegible]	[illegible]
1096	St. Anthony and Prior	[illegible]	[illegible]	[illegible]	[illegible]
1097	St. Anthony and Meridian Place	[illegible]	[illegible]	[illegible]	[illegible]
1098	St. Anthony and Arcadia	[illegible]	[illegible]	[illegible]	[illegible]
1099	St. Anthony and Cleveland	[illegible]	[illegible]	[illegible]	[illegible]
1100	Bonds and Lacey	[illegible]	[illegible]	[illegible]	[illegible]
1101	Bonds and Dorchester	[illegible]	[illegible]	[illegible]	[illegible]
1102	Bonds and Howell	[illegible]	[illegible]	[illegible]	[illegible]
1103	Bonds and Prior	[illegible]	[illegible]	[illegible]	[illegible]
1104	Bonds and Thomas Place	[illegible]	[illegible]	[illegible]	[illegible]
1105	Carroll and Fairview	[illegible]	[illegible]	[illegible]	[illegible]
1106	Carroll and Lacey	[illegible]	[illegible]	[illegible]	[illegible]
1107	Carroll and Dorchester	[illegible]	[illegible]	[illegible]	[illegible]
1108	Carroll and Howell	[illegible]	[illegible]	[illegible]	[illegible]
1109	Carroll and Prior	[illegible]	[illegible]	[illegible]	[illegible]
1110	Carroll and Mason	[illegible]	[illegible]	[illegible]	[illegible]
1111	Carroll and Wilder	[illegible]	[illegible]	[illegible]	[illegible]
1112	Carroll and Cleveland	[illegible]	[illegible]	[illegible]	[illegible]
1113	Talbert and Cleveland	[illegible]	[illegible]	[illegible]	[illegible]
1114	Talbert and Wilder	[illegible]	[illegible]	[illegible]	[illegible]
1115	Talbert and Mason	[illegible]	[illegible]	[illegible]	[illegible]
1116	Talbert and Prior	[illegible]	[illegible]	[illegible]	[illegible]
1117	Talbert and Howell	[illegible]	[illegible]	[illegible]	[illegible]
1118	Talbert and Lacey	[illegible]	[illegible]	[illegible]	[illegible]
1119	Wilder and Carroll	[illegible]	[illegible]	[illegible]	[illegible]
1120	Wilder and Bonds	[illegible]	[illegible]	[illegible]	[illegible]

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
1121	Fauquier and Frank	High	Single	6	63
1122	Plum and Hoffman	"	"	6	76
1123	Fremont and Forrest	"	"	6	47
1124	Prior and University, southeast corner	"	"	12	40
1125	Prior and Feronia	"	"	12	42
1126	Sibley and Fourth, southwest corner	Low	Double	6	54
1127	Prior and Marshall	High	Single	12	39
1128	Chicago and Starkey	Low	"	6	69
1129	Chicago and Custer	"	"	6	69
1130	Emma and Railroad	"	"	4	40
1131	Robie and Brown	"	"	6	57
1132	Rondo and Kent	High	"	6	35
1133	Short and Maria	"	"	6	72
1134	Ravine, 325 feet west of Maria	"	"	4	63
1135	Cedar and Fourth, southeast corner	Low	Double	12	38
1136	Wabasha and Fourth, northeast corner	"	"	6	32
1137	Third and Exchange, south side	"	"	12	35
1138	Third and Franklin, south side	"	"	12	34
1139	Third and Washington, south side	"	"	12	34
1140	Third and Market	"	"	12	33
1141	Third and St. Peter, south side	"	"	12	33
1142	Cedar and Third, southeast corner	"	"	12	33
1143	Wabasha and Third, southwest corner	"	"	12	34
1144	Lafond and Claghorn	High	Single	6	58
1145	Claghorn and Lake	"	"	6	57
1146	Claghorn and Van Buren	"	"	6	60
1147	George and Livingston	Low	"	12	20
1148	George and Gorman	"	"	12	22
1149	George and Goff	"	"	12	23
1150	George and Hall	"	"	12	17
1151	George and Stryker	"	"	12	15
1152	Stryker and Robie	"	"	6	22
1153	Stryker and Winifred	"	"	6	26
1154	Stryker and Congress	"	"	6	22
1155	Stryker and Delos	"	"	6	21
1156	Stryker and Colorado	"	"	6	20
1157	Stryker and Prospect Terrace	"	"	6	21
1158	Sherburne and St. Albans	High	"	6	46
1159	Seventh and John, southeast corner	Low	Double	16	45
1160	Seventh and Olive, southeast corner	"	"	16	43
1161	Seventh and Pine, southeast corner	"	"	16	43
1162	Seventh and Broadway, northeast corner	"	"	16	44
1163	Seventh and Rosabel, northeast corner	"	"	16	44
1164	Seventh and Sibley, northeast corner	"	"	16	45
1165	Wacouta and Seventh, southeast corner	"	"	12	44
1166	Locust and Seventh, northeast corner	"	"	20	46
1167	Charles and Grotto	High	Single	6	49
1168	Charles and Avon	"	"	6	46
1169	Aurora and St. Albans	"	"	6	46
1170	Rondo and St. Albans	"	"	6	33
1171	Rondo and Grotto	"	"	6	38
1172	Rondo and Miller	"	"	6	43
1173	Rondo and Fisk	"	"	6	45
1174	Rondo and Victoria	"	"	6	46
1175	Indiana and Wabasha, northwest corner	Low	"	12	69
1176	Indiana and Edward	"	"	12	69
1177	Indiana and Water	"	"	12	69
1178	Indiana and Hyde	"	"	12	69
1179	Indiana and Moses	"	"	12	69
1180	Indiana and Daniel	"	"	12	68
1181	Indiana and Ethel	"	"	12	63
1182	Holly and Victoria	High	"	6	32
1183	St. Anthony and St. Albans	"	"	6	33
1184	George and South Robert	Low	"	12	25
1185	George and Maurice	"	"	12	28
1186	State and George	"	"	16	48
1187	State and Dearborn	"	"	16	43
1188	State and Oakdale	"	"	16	40
1189	Oakdale and Prescott	"	"	16	28
1190	Oakdale and Midway	"	"	6	18

LIST OF HYDRANTS—*Continued.*

No.	Locations.	Service.	Double or Single Stream.	Size of Pipe.	Pressure at Hydrant
1191	Thomas and Dayton	High	Single	4	57
1192	Thomas and Pavilion	"	"	6	59
1193	Thomas and Ellet	"	"	6	38
1194	Thomas and Farrington	"	"	6	56
1195	Thomas and Virginia	"	"	6	53
1196	Virginia and Lafond	"	"	6	57
1197	Farrington and Lafond	"	"	6	58
1198	Ellet and Lafond	"	"	6	59
1199	Pavilion and Lafond	"	"	6	60
1200	Snelling and Edmund	"	"	16	32
1201	Snelling and Blair	"	"	16	30
1202	Snelling and Winnemaha	"	"	16	29
1203	Snelling and Aquitania	"	"	16	28
1204	Snelling and Wesley	"	"	16	27
1205	Snelling and C. N. Ry	"	"	16	26
1206	Walker and C. N. Ry	"	"	4	28
1207	Taylor and Charlotte	"	"	6	25
1208	Taylor and Walker	"	"	6	26
1209	Taylor and Snelling	"	"	6	25
1210	Taylor and Asbury	"	"	6	26
1211	Taylor and Simpson	"	"	6	24
1212	Taylor and Pascal	"	"	6	25
1213	Taylor and Holton	"	"	6	26
1214	Hewitt, 150 feet east of Sheldon	"	"	6	35
1215	Hewitt and Sheldon	"	"	6	24
1216	Hewitt and Holton	"	"	6	27
1217	Hewitt and Pascal	"	"	6	38
1218	Hewitt and Simpson	"	"	4	24
1219	Hewitt and Asbury	"	"	6	35
1220	Hewitt and Snelling	"	"	6	26
1221	Hewitt and Walker	"	"	6	26
1222	Hewitt and Charlotte	"	"	6	27
1223	Hewitt and Adline	"	"	6	29
1224	Wesley and Fry	"	"	6	30
1225	Wesley and Simpson	"	"	6	35
1226	Pascal and Wesley	"	"	6	26
1227	Pascal and Capitol	"	"	6	26
1228	Capitol and Simpson	"	"	6	27
1229	Capitol and Asbury	"	"	6	27
1230	Minnehaha and Asbury	"	"	12	28
1231	Minnehaha and Simpson	"	"	12	27
1232	Minnehaha and Pascal	"	"	12	27
1233	Minnehaha and Holton	"	"	12	26
1234	Minnehaha and Sheldon	"	"	12	26
1235	Bates and Franklin	Low	"	6	59
1236	Maria and North	High	"	6	67
1237	North and Traxton	"	"	6	63
1238	Bates and Rockwood	Low	"	4	32
1239	North and Bates	High	"	6	63
1240	Bates and Maury	"	"	6	60
1241	Hope and Seventh, southwest corner	"	"	6	40
1242	Arcade and Seventh, southwest corner	"	"	6	46
1243	Arcade and Dawson	"	"	6	36
1244	Front and Como, northwest corner	"	"	12	41
1245	Front and Grotto	"	"	12	43
1246	Front and Avon	"	"	12	37
1247	Front and Louth	"	"	12	33
1248	Front and Ryle	"	"	12	33
1249	Front and Chatsworth	"	"	12	31
1250	Front and Argyle	"	"	12	30
1251	Front and Oxford	"	"	12	30
1252	Front and Churchill	"	"	12	32
1253	Front and Lexington	"	"	12	34
1254	Seventh and Newcomb	"	"	16	54
1255	Seventh and Atlantic	"	"	16	54
1256	Seventh and Ocean	"	"	16	58
1257	Minnehaha and Duluth	"	"	6	57
1258	Minnehaha and Frank	"	"	6	51
1259	Dayton Place, 200 feet west of Maria	"	"	4	72
1260	Minnehaha and Seventh, northeast corner	"	"	6	55

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
1261	Minnehaha and Forrest	High	Single	6	56
1262	Minnehaha and Cypress	"	"	6	58
1263	Dale and St. P., M. & M. Ry	"	"	24	52
1264	Burgess and Dale	"	"	6	43
1265	Topping and Dale	"	"	6	44
1266	Case and Terrance	"	"	6	76
1267	Toronto and Palace	Low	"	6	33
1268	Toronto and Jefferson	"	"	6	33
1269	Lexington and N. P. Ry	High	"	16	28
1270	Third and Robert, northeast corner	Low	Double	12	47
1271	Third and Minnesota, northwest corner	"	"	12	40
1272	Robert and Fourth, southeast corner	"	"	6	46
1273	Hastings and Maple	High	Single	12	58
1274	Maple and Plum	"	"	12	49
1275	Sherburne and Grotto	"	"	6	48
1276	Sherburne and Avon	"	"	6	58
1277	Sherburne and Victoria	"	"	6	47
1278	Fremont and Arcade	"	"	6	39
1279	North Third and Arcade	"	"	6	44
1280	Conway and Cypress	"	"	6	46
1281	Sibley, between Fifth and Sixth	Low	Double	6	48
1282	Fremont and Cypress	High	Single	6	48
1283	Forrest and Fourth	"	"	6	45
1284	Forrest and Frances	"	"	6	46
1285	Columbia and Arch	Low	"	6	30
1286	Columbia and Pennsylvania	"	"	6	32
1287	Sims and Mendota	High	"	6	50
1288	Sims and Edgerton	"	"	6	74
1289	York and Jessie	"	"	6	73
1290	York and Bradley	"	"	6	64
1291	Fairmont and Avon	"	"	6	31
1292	Fairmont and Victoria	"	"	6	33
1293	Lisbon and Pleasant	Low	"	6	28
1294	Pleasant and Western	"	"	6	26
1295	University, under east end of bridge	High	"	20	40
1296	University, under centre of bridge	"	"	20	40
1297	University and Cleveland	"	"	20	40
1298	University, under west end of bridge	"	"	20	40
1299	University and Vandalia	"	"	20	42
1300	University and Pillsbury	"	"	20	46
1301	University and Hersey	"	"	20	48
1302	University and La Salle	"	"	20	46
1303	University and Clinton	"	"	20	43
1304	Cayuga and Mississippi	"	"	6	86
1305	Cayuga, 300 feet west of Mississippi	"	"	6	72
1306	Raymond and University	"	"	16	42
1307	Raymond and Territorial Road	"	"	16	39
1308	Raymond and Ellis	"	"	16	34
1309	Raymond and Bayless avenue East	"	"	6	42
1310	Raymond and Manvel	"	"	6	35
1311	Cudworth and Bayless avenue	"	"	6	48
1312	Cudworth and Cromwell	"	"	6	43
1313	Cudworth and Eustis	"	"	6	38
1314	Pym and Bayless	"	"	12	42
1315	Pym and Cromwell	"	"	12	35
1316	Pym and Eustis	"	"	12	34
1317	Cromwell, 200 feet south of Manvel	"	"	6	40
1318	Manvel and Robbins	"	"	6	46
1319	Manvel and Bayless	"	"	6	41
1320	Bayless and Robbins	"	"	16	41
1321	Bayless, head of Bayless avenue East	"	"	16	41
1322	Hampden and Bradford	"	"	6	43
1323	Hampden, 400 feet east of Bradford	"	"	6	41
1324	Hampden and Hersey	"	"	6	42
1325	Sidney and Bradford	"	"	6	39
1326	Sidney and Raymond	"	"	6	42
1327	Cayuga and Agate	"	"	6	78
1328	Cayuga and Cortland	"	"	6	60
1329	Osceola and Pleasant	"	"	6	64
1330	Osceola, 400 feet west of Pleasant	"	"	6	49

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
1331	Osceola and Grotto	High	Single	6	34
1332	Osceola and Avon	"	"	6	32
1333	Osceola and Victoria	"	"	6	34
1334	Victoria and St. Clair	"	"	16	39
1335	Magnolia and Edgerton	"	"	6	49
1336	Magnolia and Payne	"	"	6	53
1337	Magnolia and Greenbrier	"	"	6	40
1338	Snelling and Shields	"	"	16	31
1339	Snelling and St. Anthony	"	"	16	29
1340	Snelling and Carroll	"	"	16	30
1341	Carroll and Fry	"	"	6	29
1342	Payne and Jessamine	"	"	6	46
1343	Jessamine and Greenbrier	"	"	6	38
1344	Jessamine and Edgerton	"	"	6	43
1345	Goodhue and Duke	Low	"	6	33
1346	Payne and Geranium	High	"	6	43
1347	Payne and Rose	"	"	6	40
1348	Edgerton and Jenks	"	"	12	73
1349	Edgerton and Lawson	"	"	12	66
1350	Edgerton and Geranium	"	"	12	39
1351	Edgerton and Rose	"	"	12	37
1352	Jessamine and Jessie	"	"	6	31
1353	Jessamine and Bradley	"	"	6	32
1354	Cook and Edgerton	"	"	6	57
1355	Robert and Dearborn	Low	"	6	22
1356	Robert and Louisa	"	"	6	20
1357	Robert and Elizabeth	"	"	6	13
1358	Cook and Greenbrier	High	"	6	43
1359	Beaumont and Payne	Low	"	6	27
1360	Aurora and Victoria	High	"	6	45
1361	Aurora and Milton	"	"	6	48
1362	Fuller and Victoria	"	"	6	47
1363	Fuller and Milton	"	"	6	49
1364	Martin and Victoria	"	"	6	48
1365	Martin and Milton	"	"	6	49
1366	St. Anthony and Victoria	"	"	6	47
1367	St. Anthony and Milton	"	"	6	48
1368	Victoria and Marshall, northwest corner	"	"	16	34
1369	Cook and Walsh	"	"	6	46
1370	Cook and Weide	"	"	6	49
1371	Cook and Mendota	"	"	6	45
1372	Snelling and Marshall	"	"	16	32
1373	Snelling and Selby	"	"	16	26
1374	Snelling and Hague	"	"	16	27
1375	Snelling and Ashland	"	"	16	26
1376	Snelling and Summit	"	"	16	22
1377	Snelling and Grand	"	"	16	19
1378	Snelling and Lincoln	"	"	16	17
1379	Snelling and Goodrich	"	"	16	16
1380	Summit and McAllister	"	"	4	30
1381	Jessamine and Weide	"	"	6	47
1382	Jessamine and Arcade	"	"	6	45
1383	Jessamine and Mendota	"	"	6	44
1384	Jessamine and Forrest	"	"	6	39
1385	Forrest and Geranium	"	"	6	38
1386	Burr and Lawson	"	"	6	56
1387	Burr and Cook	"	"	6	43
1388	Selby and Milton	"	"	6	36
1389	Ashland and Milton	"	"	6	34
1390	Victoria and Ashland	"	"	16	31
1391	Dayton and Milton	"	"	6	37
1392	Clark and Whitall	"	"	6	66
1393	Clark and York	"	"	6	56
1394	Clark and Lookout Place	"	"	6	60
1395	Clark and Case	"	"	6	65
1396	Iglehart and Milton	"	"	6	36
1397	Iglehart and Chatsworth	"	"	6	39
1398	Iglehart and Oxford	"	"	6	48
1399	Tuscarora and Victoria	Low	"	6	29
1400	Whitall and Bradley	High	"	6	53

LIST OF HYDRANTS — *Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
1401	Rondo and Milton	High	Single	6	43
1402	Whitall and De Soto	"	"	6	63
1403	De Soto and York	"	"	6	61
1404	Mound and Burns	"	"	12	44
1405	Mayall Alley, back of old No. 1 engine house	Low	"	4	32
1406	Burns and Clermont	High	"	6	42
1407	Cross and Lexington	"	"	6	40
1408	Workhouse, north	"	"	6	38
1409	Workhouse, south	"	"	6	38
1410	Burns and Earl	"	"	6	41
1411	Burns and Hester	"	"	6	48
1412	Burns and Griffith	"	"	6	53
1413	Van Slyke and Lexington	"	"	6	41
1414	Van Slyke and Horton	"	"	6	42
1415	Van Slyke and Argyle	"	"	6	38
1416	Argyle and Cross	"	"	6	39
1417	Tuscarora and Milton	Low	"	6	30
1418	Frances and Cypress	High	"	6	34
1419	Robbins and Raymond Place	"	"	6	35
1420	Bayless and Tainter	"	"	16	46
1421	Wheeler and Bayless	"	"	12	46
1422	Wheeler and Ada	"	"	12	39
1423	Wheeler and Everett Court	"	"	12	40
1424	Everett Court and Great Northern Railway	"	"	6	41
1425	Raymond and Kendrick	"	"	6	41
1426	Raymond and Blake	"	"	6	44
1427	Raymond and Atty Place	"	"	6	42
1428	Raymond and Langford avenue	"	"	6	39
1429	Priscilla and Raymond	"	"	6	41
1430	Priscilla, 500 feet east of Raymond	"	"	6	43
1431	Pratt and Raymond	"	"	6	40
1432	Pratt and Alden	"	"	6	43
1433	Pratt and Gibbs	"	"	6	45
1434	Blake and Langford Place East	"	"	16	44
1435	Blake and Scudder	"	"	6	44
1436	Scudder and Atty Place	"	"	16	36
1437	Scudder and Gordon	"	"	6	36
1438	Langford and Scudder	"	"	16	36
1439	Langford and Knapp	"	"	16	35
1440	County Road and Dooley	"	"	16	25
1441	Dawson and Frances	"	"	6	46
1442	Crocus Place	"	"	4	38
1443	Delos and Hall	Low	"	6	20
1444	Langford Park Place West, and Bayless	High	"	12	45
1445	Langford Park Place West, and N. P. Ry	"	"	6	35
1446	Langford Park lace PWest, and Bayless	"	"	12	37
1447	Gordon and Langford Park Place West	"	"	12	36
1448	Gordon and Nourse	"	"	12	37
1449	Goff and Winifred	Low	"	6	38
1450	Dooley and Chelmsford	High	"	6	23
1451	Winifred and Hall	Low	"	6	31
1452	Robie and Andrew	"	"	6	32
1453	Iglehart and Fairview	High	"	6	31
1454	Hall and Congress	Low	"	6	27
1455	Marshall and Amos	High	"	12	33
1456	Midway and Mt. Hope	Low	"	6	18
1457	Midway and Harvard	"	"	6	21
1458	Midway and Woodbury	"	"	6	23
1459	Midway and Brown	"	"	6	38
1460	Prescott and Mt. Hope	"	"	6	22
1461	Prescott and Harvard	"	"	6	22
1462	Prescott and Woodbury	"	"	6	24
1463	Langford Park Place East and Gordon	High	"	6	41
1464	Knapp and Langford Park Place East	"	"	6	42
1465	Knapp and Langford Park Place West	"	"	6	42
1466	Knapp and Langford avenue	"	"	6	33
1467	Reaney and St. Paul & Duluth R. R.	Low	"	6	18
1468	Armstrong and View	"	"	6	32
1469	Armstrong and Victoria	"	"	6	28
1470	Armstrong and Milton	"	"	6	27

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
1471	Armstrong and Chatsworth	Low	Single	6	26
1472	St. Peter and Fifth, southeast corner	"	Double	6	33
1473	Martin and St. Albans	High	Single	6	34
1474	Martin and Grotto	"	"	6	45
1475	Wabasha and Sixth, southeast corner	Low	Double	6	31
1476	Armstrong and Warsaw	"	Single	6	37
1477	Armstrong and Drake	"	"	6	42
1478	St. Anthony and Grotto	High	"	6	42
1479	St. Anthony and Miller	"	"	6	45
1480	St. Anthony and Fisk	"	"	6	46
1481	Whitall and Jessie	"	"	6	40
1482	Carroll and Chatsworth	"	"	6	42
1483	Warsaw and Audubon	Low	"	6	35
1484	Whitall and Edgerton	High	"	6	37
1485	Dayton and Laura	"	"	"	31
1486	Dayton and Amos	"	"	6	33
1487	Dayton and Moore	"	"	6	43
1488	Dayton and Wilder	"	"	6	44
1489	Dayton and Cleveland	"	"	6	45
1490	Prior and Dayton	"	"	6	38
1491	Westminster and Lookout Place	"	"	6	54
1492	Lookout Place and Arkwright	"	"	6	53
1493	Dayton and Chatsworth	"	"	6	40
1494	Dayton and Oxford	"	"	6	45
1495	Wabasha and Fifth	Low	Double	6	34
1496	Randolph and Toronto	"	Single	6	38
1497	St. Anthony and Fairview	High	"	6	30
1498	Jessie and Jenks	"	"	"	72
1499	Jessie and Lawson	"	"	"	65
1500	Jessie and Cook	"	"	6	55
1501	Jessie and Magnolia	"	"	6	40
1502	Laurel and Victoria	"	"	6	22
1503	Laurel and Milton	"	"	6	35
1504	Laurel and Chatsworth	"	"	6	30
1505	Laurel and Oxford	"	"	6	31
1506	Lincoln and Chatsworth	"	"	6	38
1507	Lincoln and Oxford	"	"	6	38
1508	Magnolia and Walsh	"	"	6	45
1509	Magnolia and Wilder	"	"	6	47
1510	Magnolia and Mendota	"	"	6	42
1511	Magnolia and Forest	"	"	6	40
1512	St. Anthony and Ray	"	"	"	[illegible]
1513	St. Anthony and Fry	"	"	6	29
1514	St. Anthony and Pierce	"	"	6	31
1515	St. Anthony and Aldine	"	"	6	32
1516	St. Anthony and Hersche	"	"	6	33
1517	St. Anthony and Wheeler avenue	"	"	6	34
1518	St. Anthony and Bacon	"	"	6	34
1519	Goodrich and Milton	"	"	6	38
1520	Goodrich and Chatsworth	"	"	6	40
1521	Goodrich and Oxford	"	"	6	35
1522	Mitchell and Pierce	Low	"	6	8
1523	Osceola and Milton	High	"	6	45
1524	Osceola and Chatsworth	"	"	6	35
1525	Dearborn and Chatsworth	"	"	6	30
1526	Dearborn and Oxford	"	"	6	32
1527	Arcade and Geranium	"	"	12	46
1528	Arcade and Rose	"	"	12	45
1529	Rose and Wilder	"	"	6	46
1530	Rose and Walsh	"	"	6	45
1531	Fairview and Shields	"	"	16	37
1532	Geranium and Wilder	"	"	6	47
1533	Geranium and Walsh	"	"	6	45
1534	Geranium and Greenbrier	"	"	6	40
1535	Fairview and Shoburne	"	"	16	40
1536	St. Clair and Hoyt	"	"	12	43
1537	St. Clair and Milton	"	"	12	77
1538	St. Clair and Chatsworth	"	"	12	38
1539	St. Clair and Hickory avenue	"	"	12	33
1540	St. Clair and Oxford	"	"	12	30

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
1541	Jessamine and Walsh	High	Single	6	46
1542	Auburn and Fairview	"	"	6	40
1543	Auburn, 500 feet west of Fairview	"	"	6	37
1544	Wheeler and Shields	"	"	6	36
1545	Jessamine and Burr	"	"	6	42
1546	Bacon and Shields	"	"	4	36
1547	Jessamine and De Soto	"	"	6	46
1548	Jessamine and Clark	"	"	6	50
1549	Jessamine and Arkwright	"	"	6	46
1550	Portland and Victoria	"	"	6	32
1551	Jessamine and Woodland	"	"	6	44
1552	Jessamine and McMenemy	"	"	6	51
1553	Jessamine, 150 feet east of the Mississippi	"	"	6	70
1554	Territorial Road and Hunt Place	"	"	6	43
1555	Territorial Road and Cromwell	"	"	6	44
1556	Territorial Road and Eustis	"	"	6	40
1557	Hague avenue and Milton	"	"	6	35
1558	Hague avenue and Chatsworth	"	"	6	31
1559	Hague avenue and Oxford	"	"	6	32
1560	Hague avenue and Lexington	"	"	6	36
1561	Mulberry and Sixth	"	"	4	62
1562	Payne and Maryland	"	"	6	38
1563	Payne and Hawthorne	"	"	6	40
1564	Payne and Orange	"	"	6	39
1565	Payne and Hyacinth	"	"	6	38
1566	Payne and Ivy	"	"	6	36
1567	Nourse and N. P. R. R.	"	"	6	35
1568	De Soto and Jenks	"	"	6	61
1569	De Soto and Lawson	"	"	6	49
1570	Charles and Arundel	"	"	6	57
1571	Virginia and Blair	"	"	4	58
1572	Virginia and Minnehaha	"	"	4	57
1573	Capitol and Fry	"	"	6	29
1574	Capitol and Aldine	"	"	6	25
1575	Capitol and Wheeler	"	"	6	30
1576	Arch and Fairview	"	"	6	52
1577	Arch and Warren	"	"	6	36
1578	Arch and Mt. Vernon	"	"	6	49
1579	Arch, 300 feet east of Linden	"	"	6	71
1580	Arch, 100 feet west of Columbia	"	"	6	84
1581	Gaultier and Topping	"	"	6	62
1582	Gaultier and Burgess	"	"	6	62
1583	Gaultier and Stinson	"	"	6	56
1584	Gaultier and Hatch	"	"	6	49
1585	Gaultier and Merrill	"	"	6	44
1586	Gaultier and Cook	"	"	6	46
1587	Stinson and Farrington	"	"	6	52
1588	Minnehaha and Duluth R. R.	"	"	12	78
1589	Minnehaha and Greenbrier	"	"	12	77
1590	Minnehaha and Walsh	"	"	12	67
1591	Minnehaha and Weide	"	"	12	59
1592	Woodbridge and Atwater	"	"	6	63
1593	Woodbridge and Milford	"	"	6	62
1594	Woodbridge and Wayzata	"	"	6	61
1595	Milford and Claghorn	"	"	6	62
1596	Milford and Albemarle	"	"	6	62
1597	Reaney and Duluth	"	"	6	62
1598	Reaney and Atlantic	"	"	6	60
1599	Reaney and English	"	"	6	53
1600	Rice and Great Northern Railway	"	"	12	56
1601	Rice and Capitol	"	"	12	59
1602	Fauquier and Duluth	"	"	6	63
1603	Milford and Rice	"	"	6	62
1604	Atlantic and Fauquier	"	"	6	61
1605	Fauquier, 300 feet east of Atlantic	"	"	6	57
1606	Cleveland and Myrtle	"	"	16	39
1607	Cleveland and Wabash	"	"	16	38
1608	Cleveland, 300 feet north of Milwaukee Ry	"	"	16	40
1609	Cleveland and Milwaukee Ry	"	"	16	39
1610	Seventh and English	"	"	16	56

LIST OF HYDRANTS—*Continued.*

No.	LOCATION.	Service.	Double or Single Steamer.	Size of Pipe.	Pressure at Hydrant
1611	Phalen and Seventh	High	Single	12	55
1612	Phalen and Kerwin	"	"	12	56
1613	Phalen and Brand	"	"	12	57
1614	Phalen	"	"	12	56
1615	Phalen and Stillwater	"	"	12	55
1616	Cleveland and Rondo	"	"	16	35
1617	Earl and Dawson	"	"	12	58
1618	Margaret and Frank	"	"	6	53
1619	Margaret and Gotzian	"	"	6	49
1620	Carroll and Wheeler	"	"	6	32
1621	Fremont and Earl	"	"	6	57
1622	Rice and Hatch	"	"	16	59
1623	Rice and Merrill	"	"	16	59
1624	Rice and Cook	"	"	16	59
1625	Rice and Oliver	"	"	16	57
1626	Cook and Rice	"	"	6	59
1627	Cook and Park ave	"	"	6	56
1628	Cook and Sylvan	"	"	6	51
1629	Hastings and Forrest	"	"	12	57
1630	Rice and Lyton	"	"	16	64
1631	Rice and Wayzata	"	"	16	61
1632	Litchfield and Rice	"	"	6	61
1633	Litchfield and Park	"	"	6	56
1634	Litchfield and Sylvan	"	"	6	50
1635	Fuller and Chatsworth	"	"	6	49
1636	Fuller and Oxford	"	"	6	50
1637	Fuller, 200 feet west of Oxford	"	"	6	49
1638	Hastings and Cypress	"	"	12	54
1639	Hastings and Earl	"	"	12	51
1640	Hastings and Frank	"	"	12	56
1641	Earl and Pacific	"	"	12	50
1642	Atwater and Rice	"	"	6	63
1643	Atwater and Park	"	"	6	62
1644	Atwater and Sylvan	"	"	6	59
1645	Earl and McLean	"	"	12	47
1646	Earl and Suburban	"	"	12	46
1647	Sycamore and Rice	"	"	12	63
1648	Sycamore and Park	"	"	12	63
1649	Sycamore and Sylvan	"	"	12	61
1650	Sycamore and Lightner	"	"	12	64
1651	Sycamore and Jackson	"	"	12	66
1652	Sycamore and Cortland	"	"	12	66
1653	Maria and McLean, northwest corner	"	"	6	73
1654	Jackson, under bridge at roundhouse	"	"	12	69
1655	Jackson, under bridge at roundhouse	"	"	12	69
1656	Jackson, north line of Great Northern Railway	"	"	12	60
1657	Jackson and Capitol	"	"	12	63
1658	Lafond and Milton	"	"	6	44
1659	Maria and McLean, southwest corner	"	"	6	73
1660	Maria and Lizzie	"	"	6	66
1661	Capitol and Sylvan	"	"	6	62
1662	Capitol and Lightner Place	"	"	6	66
1663	Stewart and Tuscarora	Low	"	6	36
1664	Stewart and Bay	"	"	6	34
1665	Bay and Logan	"	"	6	37
1666	Bay and Tuscarora	"	"	6	35
1667	Hudson and Forrest	High	"	6	58
1668	Hudson and Cypress	"	"	6	50
1669	Selby and Chatsworth	"	"	6	32
1670	Selby and Oxford	"	"	6	36
1671	Mound and Clermont	"	"	6	59
1672	Mound and Thorn	"	"	6	46
1673	Mound, 335 feet west of Earl	"	"	6	34
1674	Cortland and Agate	"	"	16	66
1675	Cortland and York	"	"	16	61
1676	Cortland and Poplar	"	"	16	63
1677	Hall and Colorado	Low	"	6	21
1678	Hall and Prospect Terrace	"	"	6	22
1679	Marshall and Laura	High	"	12	29
1680	Marshall and Fairview	"	"	12	28

LIST OF HYDRANTS — *Concluded.*

No.	LOCATION.	SERVICE.	DOUBLE OR SINGLE STEAMER.	SIZE OF PIPE.	PRESSURE AT HYDRANT
1681	Marshall and Wheeler	High	Single	12	29
1682	View and Juno	Low	"	6	87
1683	Minnehaha and Hamline	High	"	12	27
1684	Hall and Robie	Low	"	6	25
1685	Cortland and Case	High	"	16	64
1686	Cortland and Jenks	"	"	16	65
1687	Cortland and Lawson	"	"	16	64
1688	Cortland and Cook	"	"	16	64
1689	Cortland and Magnolia	"	"	16	63
1690	Cortland and Jessamine	"	"	16	62
1691	Cortland and Geranium	"	"	16	61
1692	Cortland and Rose	"	"	16	62
1693	Cortland and Maryland	"	"	16	64
1694	Congress and Goff	Low	"	6	40
1695	Agate and York	High	"	6	80
1696	Agate and Elk	"	"	6	62
1697	Agate, 250 feet south of Granite	"	"	6	52
1698	Pleasant and St. Albans	"	"	12	66
1699	Hoffman and Hudson	"	"	6	78
1700	St. Albans, 300 feet south of Fairmont	"	"	12	51
1701	Winifred and Winslow	Low	"	6	25
1702	Winifred and Bidwell	"	"	6	21
1703	Winifred and Bellows	"	"	6	21
1704	Wacouta between Third and Fourth	"	Double	6	62
1705	Fourth and Sibley, northeast corner	"	"	6	55
1706	Sibley and Union Depot	"	Single	4	70
1707	Evergreen and Victoria	High	"	6	36
1708	Evergreen and Milton	"	"	6	47
1709	Sherburne and Milton	"	"	6	49
1710	Sherburne and Chatsworth	"	"	6	51
1711	Sixth, between Sibley and Wacouta	Low	"	4	48
1712	Dearborn and Livingston	"	"	6	20
1713	Charles and Milton	High	"	6	50
1714	Charles and Victoria	"	"	6	49
1715	Fifth and Broadway	Low	Double	6	57
1716	Fifth and Pine	"	Single	6	55
1717	Fifth and Olive	"	"	6	56
1718	Edmund and Avon	High	"	6	52
1719	Edmund and Victoria	"	"	6	50
1720	Edmund and Milton	"	"	6	48
1721	Woodward and John	Low	"	4	40
1722	Grand avenue and Lexington	High	"	6	40
1723	Leslie and Milton	"	"	6	36
1724	Leslie and Chatsworth	"	"	6	31
1725	Thomas and Victoria	"	"	6	51
1726	Thomas and Milton	"	"	6	50
1727	Thomas and Chatsworth	"	"	6	52
1728	Thomas and St. Albans	"	"	6	50
1729	Thomas and Grotto	"	"	6	51
1730	Lafond and Avon	"	"	6	48
1731	Lafond and Victoria	"	"	6	50
1732	Randolph and Webster	Low	"	6	42
1733	Yankee and Ann	"	"	4	40
1734	Van Buren and Victoria	High	"	6	42
1735	Van Buren and Avon	"	"	6	48
1736	Van Buren and Grotto	"	"	6	53
1737	Van Buren and St. Albans	"	"	6	55
1738	Van Buren and Kent	"	"	6	57
1739	Van Buren and Mackubin	"	"	6	58
1740	Congress and Winslow	Low	"	6	24
1741	Congress and Bidwell	"	"	6	24
1742	Congress and Bellows	"	"	6	21
1743	Congress and Charlton	"	"	6	19
1744	Fred, in rear of Lincoln School	"	"	4	19
1745	View and Watson	"	"	6	33
1746	Watson and Victoria	"	"	6	29
1747	Watson and Milton	"	"	6	28
1748	Watson and Chatsworth	"	"	6	27

Number of fire hydrants placed this year on low service	40
Number of fire hydrants placed this year on high service	237
Total number placed this year	277
Total number placed to date on low service	649
Total number placed to date on high service	1,099
Grand total	1,748

Of which 59 on low service are double steamers.
Only two of the old Holly hydrants remain in use; the balance are Mathews.

LIST OF STREET SPRINKLING HYDRANTS.

No.	LOCATION.	Measurement of Valve from Hydrant.	Name of Hydrant.
1	Sixth and Sibley	10 feet	Stand pipe
2	Fifth and Wacouta	7½ "	"
3	Wacouta and Third	6 "	"
4	Fort and Third	5 "	"
5	Third and Jackson	5 "	"
6	Minnesota and Third	5 "	"
7	Fifth and Robert	6 "	"
8	Robert and Seventh	7 "	"
9	Wacouta and Seventh	6 "	"
10	Ninth and Cedar	7 "	"
11	Eighth and Broadway	6 "	"
12	John and Seventh	6 "	"
13	Walnut and Seventh	5 "	"
14	Kittson and Seventh	8 "	"
15	Ninth and St. Peter	5 "	"
16	Pine and Tenth	9 " east 30 " south	"
17	Pine and Grove	3 "	"
18	Waverly and Westminster	5 "	"
19	Leech and Seventh	In tunnel	"
20	Broadway and Fourth	7 feet	"
21	Cedar and Seventh	8 "	"
22	College and Wabasha	8 "	"
23	College and Tenth	8 " north 7 " east	"
24	Pleasant and Third	35 " south 7 " west	"
25	St. Peter and Third	In tunnel	"
26	Franklin and Fourth	In tunnel	"
27	Goodrich and Seventh	16 feet	"
28	Eleventh and Robert	4 "	"
29	Mt. Airy and Mississippi	6 "	"
30	Burr and Collins	11 "	"
31	Bradley and Woodward	7 "	"
32	Martin and Western	8 "	"
33	St. Albans and Portland	9 "	"
34	Portland and Summit	31 "	Holly
35	Laurel and Farrington	6 "	Stand pipe
36	St. Clair and Seventh	10½ "	"
37	Ramsey and Pleasant	31 " south 32 " east	"
38	Mackubin and Selby	28 "	"
39	Summit and Nelson	10 "	"
40	Mackubin and Summit	14 "	"
41	Dale and Marshall	8 "	"
42	Dale and Ashland	27 "	"
43	Dale and Grand	10 "	"
44	Marshall and Western	3 "	"
45	Rondo and Rice	9 "	"
46	Central and Wabasha	7½ "	"
47	Mackubin and University	8 "	"
48	University and Rice	8 "	"
49	Bates and Seventh	6 "	"
50	Hudson and Maria	7 "	"
51	Mendota and Fauquier	7 "	"
52	Oneida and Seventh	8 "	"
53	Third and Bates	8 "	"
54	Fifth and Maria	8 "	"
55	Chestnut and Franklin	8½ "	"
56	Twelfth and Jackson	35 "	"
57	Wacouta and Tenth	5 "	"
58	Arundel and Holly	29 " south 6 " east	"
59	Sherman and Smith	10 "	"
60	Grant and Aurora	27 "	"
61	Sixth and Wabasha	In tunnel	"
62	Eichenwald and Seventh	9 feet	"
63	Sinnen and Seventh	9 "	"
64	Reaney and Seventh	8 "	"

LIST OF STREET SPRINKLING HYDRANTS—*Continued.*

No.	LOCATION.	Measurement of Valve from Hydrant.	Name of Hydrant.
65	Earl and Seventh	6 Feet	Stand Pipe
66	Locust and Ninth	11 "	"
67	Walnut and Summit	36 "	Holly
68	Ninth and Fort	8 "	Stand pipe
69	Grove and Canada	5 "	"
70	Mendota and Seventh	9 "	"
71	Jackson and Fourteenth	8 "	"
72	John and Fourth	6 "	"
73	Maple and Conway	8 "	"
74	Farrington and Carroll	7 "	"
75	Topping and Como	.....	.....
76	Viola and Grant	26 "	"
77	Capitol and Western	.....	.....
78	Acker and Mississippi	6 "	"
79	Payne and Minnehaha	8 "	"
80	Fairfield and Dakota	8½ "	"
81	Audubon and Seventh	8 "	"
82	Rice and Como	8 "	"
83	Rice and G. N. Ry	7 "	"
84	Williams and Pine	22 "	"
85	Olmsted and Olive	33 "	"
86	Neill and Fifth	12 " west 36 " south	" "
87	Canada and University	23 "	"
88	Warren and Valley	4 " east 32 " west	" "
89	Gaultier and University	7 " east 34 " south	" "
90	Virginia and University	3 " east 33 " south	" "
91	Farrington and Nelson	26 " west	"
92	Oakland and Floral	6 "	"
93	Mackubin and Iglehart	8 "	"
94	Acker and Elk	6 "	"
95	Summit and Cedar	7 " south 12 " west	" "
96	Iglehart and St. Peter	28 "	"
97	Ninth and Jackson	29 " north	"
98	Sherman and Exchange	7 "	"
99	Summit Place and Iglehart	22 "	"
100	Summit Place and Martin	28 "	"
101	Jay and Fuller	8 "	"
102	Dale and University	8 "	"
103	St. Albans and Hague	7 "	"
104	Hoffman and Sixth	8 "	"
105	Hoffman and Cherry	10 "	"
106	River and Hoffman	10 "	"
107	University and Snelling	13 "	"
108	Carroll and Dale	5 "	"
109	Grand and Floral	30 "	"
110	Dale and Selby	9 "	"
111	Farrington and Sherburne	7 "	"
112	Mackubin and Fuller	5 "	"
113	Mackubin and St. Anthony	9 "	"
114	Harrison and Garfield	10 "	"
115	Charles and Western	10 "	"
116	Marion and Charles	8 "	"
117	Granite and Mississippi	9 "	"
118	Sixth and Broadway	3 "	"
119	Minnehaha and Burr	13 " north 26 " east	" "
120	Bedford and Decatur	30 "	"
121	Burr and Hopkins	6 "	"
122	Maple and Hudson	9 "	"
123	Richmond and Goodhue	10 "	"
124	Duke and Seventh	7 "	"
125	Earl and Minnehaha	7 "	"
126	Arcade and Reaney	7 "	"
127	Otsego and Lafayette	6 "	"
128	Cedar and Fifth	7 "	"

LIST OF STREET SPRINKLING HYDRANTS—*Continued.*

No.	LOCATION.	Measurement of Valve from Hydrant.	Name of Hydrant.
129	Grotto and Dayton	6 feet	Stand pipe.
130	Grove and Monroe Place	5 "	"
131	Farquier and Weide	9 "	"
132	Arundel and Rondo	9 "	"
133	Arcade and York	7 "	"
134	Broadway and Thirteenth	6 "	"
135	Robert and University	10 "	"
136	Como and Elfelt	10 "	"
137	Congress and Robert	8 "	"
138	Lee and Bay	9 "	"
139	Fillmore and Robert	7 "	"
140	Grotto and Grand	6 "	"
141	Robert and Wood	9 "	"
142	Anita and Concord	7 "	"
143	Robie and Concord	37 "	"
144	Reaney and Greenbrier	8 "	"
145	Victoria and Summit	43 " south	"
146	Dakota, south of Channel	8 "	"
147	Isabel and Dakota	6 "	"
148	Chicago and Robert	8 "	"
149	Sherburne and Park	8 "	"
150	Virginia and Rondo	7 "	"
151	Front and Dale	5 "	"
152	Lafond and Western	8 "	"
153	Front and Rice	6 "	"
154	Kent and Laurel	4 "	"
155	Grotto and Holly	6 "	"
156	Western and Goodrich	8 "	"
157	Cook and Payne	7 "	"
158	York and Payne	6 "	"
159	University and Victoria	28 "	"
160	University and Lexington	12 "	"
161	Third and John	10 "	"
162	Tuscarora and Seventh	7 "	"
163	Elfelt and Edmund	8 "	"
164	Mackubin and Edmund	9 "	"
165	Dale and Martin	8 "	"
166	Whitall and Burr	31 "	"
167	Mississippi and Case	9 "	"
168	Mississippi and Jessamine	7 "	"
169	University and Hamline	10 "	"
170	Taylor and Snelling	9 "	"
171	Van Buren and Snelling	7 "	"
172	Prior and Oakley	31 "	"
173	St. Anthony and Terrace Park avenue	30 "	"
174	Iglehart and Prior	5 "	"
175	Jackson and Arch	31 "	"
176	Grotto and Carroll	9 "	"
177	Franklin and Sixth	4 "	"
178	Duluth and Seventh	8 "	"
179	Cypress and Euclid	8 "	"
180	State and Tennessee	31 " south 12 " east	"
181	Osceola and Pleasant	7 "	"
182	Raymond and Bayless Place	14 "	"
183	Raymond and University	7 "	"
184	University and Pillsbury	3 "	"
185	Raymond and Gordon	35 "	"
186	Lexington and Van Slyke	35 "	"
187	University and Fairview	.....	"
188	Chatsworth and University	6 "	"
189	Grotto and Sherburne	7 "	"
190	Whitall and Edgerton	30 "	"
191	Edgerton and Jenks	31 "	"
192	Snelling and Summit	25 "	"
193	Indiana and Hyde	7 "	"
194	Dale and Charles	4 "	"
195	Mt. Hope and Prescott	75 " north 7 " west	"
196	Greenbrier and Edgerton	33 "	"

LIST OF STREET SPRINKLING HYDRANTS—*Concluded.*

No.	LOCATION.	MEASUREMENT OF VALVE FROM HYDRANT.		NAME OF HYDRANT.
197	Sycamore and Greenbrier	33	feet	Stand pipe
198	Case and Burr	30	"	"
199	Victoria and Goodrich	1	"	"
200	Grotto and Goodrich	29	" south	"
		3	" west	"
201	Dale and Goodrich	32	"	"
202	Clifton and Goodhue	38	"	"
203	Midway and Woodbury	22	"	"
204	Concord and Andrew	11	" south	"
		18	" west	"
205	Greenbrier and Case	6	"	"
206	York and De Soto	31	"	"
207	Westminster and Lookout Place	10	"	"
208	Mound and Hastings	6	"	"
209	Carroll and Arundel	7	"	"
210	Daly and James	10	"	"
211	Minnehaha and Hope	30	"	"
212	Randolph and Fulton	8	"	"
213	McBoal and Smith avenue	4	"	"
214	Congress and Ware	28	"	"
215	Milford and Rice	22	"	"
216	Sycamore and Jackson	30	"	"

Number placed this year, 30.
Total placed to date, 216, of which two are Holly hydrants.

LOCATION OF VALVES (LOW SERVICE).

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
Alabama	East line of State			1						
Armstrong	East and west line of Seventh			2						
Armstrong	East and west line of Victoria			2						
Audubon	East line of Seventh			1						
Anita	North line of Robie		1							
Banfil	East and west line of Seventh		2							
Banfil	West line of Western		1							
Bay	South line of Seventh			1						
Bay	South line of Lee			1						
Bay	South line of Tuscarora			1						
Bay	North line of Stewart			1						
Beaumont	East line of De Soto			1						
Beaumont	East and west line of Bedford			2						
Beaumont	East line of De Soto			1						
Becker Place	South line of Lafayette			1						
Bedford	North line of North			1						
Bedford	South line of Minnehaha			1						
Bradley	North line of Patridge			1						
Bradley	North line of Beaumont		1							
Broadway	On hydrant in Milwaukee freight yard		1							
Broadway	N. and S. line of Third, M. H. & B. O.	1	1			2				
Broadway	N. and S. line of Seventh, M. and H.		1	2		1		1		
Broadway	Blow-off at Ninth			1						
Broadway	South line of Grove			2				1		
Broadway	North line of Thirteenth		1							
Bruno	East line of Lafayette			1						
Burr	South line of Hopkins			1						
Burr	South line of North			1						
Burr	North line of Collins			1						
Burr	North line of Beaumont			1						
Burr	South line of Fauquier			1						
Bancroft	North line of Concord			1						
Bancroft	North line of Robie			1						
Bancroft	North line of Winifred			1						
Bidwell	South line of Isabel			1						
Canada	North line of Ninth			1						
Canada	North and south line of Grove			2						
Cedar	North line of Third				1					
Cedar	Blow-off at Sixth	1								
Cedar	North and south line of Seventh				2					
Cedar	Blow-off at Eighth	1								
Cedar	South line of Tenth				1					
Cedar	North and south line of Twelfth			1			1			
Chestnut	North line of Franklin			1						
Chestnut	South line of Seventh			1						
Colborne	North line of Seventh			1						
Colborne	North line of St. Clair			1						
College	West line of Cedar			1						
College	West line of Wabasha			1						
College	West line of St. Peter			1						
College	West line of Tenth			1						
Collins	West line of Bedford			1						
Collins	East line of Lafayette			1						
Concord	East line of Bancroft				1					
Concord	East and west line of State				2					
Concord	South line of Isabel				1					
Congress	West line of Anita			1						
Congress	East and west line of State			2						
Congress	East line of Clinton			1						
Congress	East and west line of Concord			2						
Congress	East line of Wabasha			1						
Congress	West line of Goff			1						
Congress	East line of Stryker			1						
Congress	East line of Winslow			1						
Congress	East line of Bellows			1						
Chicago	East and west line of Starkey			2						
Colorado	West line of Clinton			1						
Colorado	East line of Livingston			1						
Clinton	South line of Congress			1						
Decatur	East line of Bedford			1						

LOCATION OF VALVES (LOW SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12 inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
De Soto	South line of Collins			1						
Douglas	North and south line of Seventh			2						
Douglas	South line of Lisbon			1						
Duke	South line of Seventh			1						
Duke	South line of Jefferson			1						
Dousman	South line of Goodhue			1						
Dousman	North line of Von Minden			1						
Delos	West line of Clinton			1						
Delos	East line of Livingston			1						
Delos	East and west line of Starkey			2						
Delos	East line of Stryker			1						
Daly	North line of James			1						
Eagle	North line of Washington			1						
Eagle	South line of Exchange			1						
Eagle	South line of Seventh			1						
Eighth	112 feet east of Neill B. O.	1								
Eighth	East and west line of Locust		2							
Eighth	East and west line of Broadway		4							
Eighth	West line of Sibley		1							
Eighth	East and west line of Jackson		2							
Eighth	East line of Minnesota		1							
Eighth	East and west line of Cedar		2							
Eighth	East line of Wabasha		1							
Eleventh	East line of Broadway		2							
Eleventh	West line of Jackson			1						
Eleventh	West line of Robert			1						
Eleventh	East line of Cedar			1						
Elm	East line of Exchange		1							
Exchange	East and west line of St. Peter		2							
Exchange	South line of Ninth		1							
Exchange	North line of Seventh		1							
Exchange	North and south line of Third		2							
Exchange	South line of Eagle		1							
Exchange	South line of Chestnut		1							
Exchange	North line of Sherman		1							
Exchange	Centre of Wilkin		1							
Edgerton	North line of Minnehaha			1						
Fairfield	West line of State			1						
Fairfield	East line of Eva			1						
Fairfield	West line of Eaton			1						
Fairfield	West line of Hubert			1						
Fairfield	East and west line of Starkey			2						
Fairfield	West line of Dakota			1						
Fauquier	East line of De Soto				1					
Fifth	West line of Neill			1						
Fifth	West line of Willius			1						
Fifth	East line of John			1						
Fifth	West line of Olive			1						
Fifth	East and west line of Broadway		1	1						
Fifth	West line of Rosabel		1							
Fifth	East line of Sibley		1							
Fifth	East and west line of Jackson		2							
Fifth	East line of Minnesota		1							
Fifth	East and west line of Cedar		2							
Fifth	East and west line of Wabasha		1	1						
Fifth	West line of St. Peter		1							
Fifth	West line of Washington		1							
Fifth	East line of Seventh		1							
Fifth	East and west line of Fort		2							
Fifth	East line of Smith avenue		1							
Fort	North line of Third, M. H. & B. O.		2				1			
Fort	South line of Fifth on H		1							
Fort	South line of Sixth on H		1							
Fort	South line of Ninth, M. & H		1				1			
Fort	On H., between Ninth and Tenth		1							
Fourth	West line of Kittson				1					
Fourth	B. O. at Neill	1								
Fourth	West line of Locust				1					
Fourth	B. O. at John	1								
Fourth	Eastand West line of Broadway			1	1					

LOCATION OF VALVES (LOW SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch	30-inch.	36-inch.
Fourth	West line of Rosabel			1						
Fourth	West line of Wacouta			1						
Fourth	West line of Jackson			2						
Fourth	East line of Minnesota			1						
Fourth	East and west line of Cedar			2						
Fourth	West line of Wabasha			1						
Fourth	West line of Market			1						
Fourth	East line of Franklin			1						
Fourteenth	East and west line of Canada			2						
Fourteenth	East line of Jackson			1						
Franklin	North line of Sherman		1							
Franklin	North line of Irvine Park drive		1							
Franklin	North line of Third		1							
Franklin	North line of Fourth		1							
Franklin	North and south line of Seventh		2							
Franklin	South line of Ninth		1							
Fillmore	West line of State			1						
Fillmore	East line of Eva			1						
Fillmore	East line of Robert			1						
Fillmore	West line of Hubert			1						
Fillmore	East and west line of Starkey			2						
Fred	East line of Burr		1							
Garfield	North line of Goodrich			1						
Goodhue	East and west line of Seventh			2						
Goodhue	East line of Richmond			1						
Goodrich	East and west line of Seventh, M. & B. O.	1		1	1					
Grace	East line of Seventh			1						
Grove	West line of Lafayette			1						
Grove	West line and centre of Mississippi, M. H. & B. O		2				2			
Grove	West of Canada on H		1							
Grove	East line of Jackson						1			
Glencoe	West line of Mississippi			1						
Glencoe	East line of Columbia			1						
George	West line of State				1					
George	West line of Livingston				1					
George	East line of Stryker				1					
Goff	North line of Winifred			1						
Harrison	West line of Douglas			1						
Harrison	West line of Garfield			1						
Hopkins	West line of Bradley			1						
Hopkins	East line of De Soto			1						
Hall	North line of George			1						
Hall	North line of Robie			1						
Hall	South line of Congress			1						
Hall	North and south line of Isabel			2						
Hall	South line of Colorado			1						
Indiana	West line of State					1				
Indiana	West line of Eaton					1				
Indiana	East and west line of Starkey				1	1				
Indiana	West line of Water				1					
Isabel	West line of State				1					
Isabel	East and west line of Starkey				2					
Isabel	West line of Winslow				1					
Jackson	North line of levee and levee M. & B. O.	1	1							
Jackson	South line of Fourth				1					
Jackson	North and south line of Seventh				2					
Jackson	South line of Ninth				1					
Jackson	South line of Twelfth				1					
Jackson	North line of Grove			1						
Jackson	South line of Fourteenth			1						
Jefferson	West line of Seventh				1					
James	East and west line of Seventh			2						
Jessie	South line of Fauquier			1						
John	North line of Third			1						
John	North line of Fourth			1						
John	North line of Fifth			1						
John	North and south line of Seventh		1	1						
John	South line of Tenth		1							
John	North and south line of Grove		2							

LOCATION OF VALVES (LOW SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
John	North and south line of Olmsted			2						
Kittson	North line of Fourth			1						
Kittson	North line of Fifth			1						
Kittson	South line of Seventh			1						
Kentucky	East line of State			1						
Lafayette	North line of Woodward on H		1							
Lafayette	North and south line of Bruno, M. & B. O.	1	1			2				
Lafayette	Northern Pacific track, B. O.		1							
Lafayette	South line of Collins					1				
Lee ave	East line of Seventh			1						
Lee ave	West line of Warsaw			1						
Leech	North line of Goodrich			1						
Leech	North line of McBoal			1						
Leech	North line of Seventh			1						
Leech	150 feet south of north line of Ramsey			1						
Locust	North line of Seventh, M. & H			1			1			
L'Orient	North line of Thirteenth			1						
L'Orient	South line of Mt. Airy			1						
L'Orient	North line of Glencoe			1						
Livingston	North line of Delos			1						
Lisbon	West line of Douglas			1						
McBoal	West line of Wilkin			1						
McBoal	East line of Smith avenue			1						
McBoal	East and west line of Seventh			2						
Magnolia	Centre of Mississippi			1						
Market	North line of Third		1							
Minnehaha	East line of Jessie			1						
Minnehaha	East line of Burr			1						
Minnehaha	East line of De Soto			1						
Minnesota	North line of Third			1						
Minnesota	South line of Fifth			1						
Minnesota	South line of Fifth			1						
Minnesota	North and south line of Seventh		1	1						
Minnesota	South line of Tenth		1							
Minnesota	South line of Eleventh		1							
Minnesota	South line of Twelfth		1							
Mississippi	North line of Grove, M. & B. O			3					1	
Mississippi	North line of Nash			1						
Mississippi	North line of Glencoe			1						
Mississippi	South line of Minnehaha			2						
Mississippi	South of north abutment of M. Ry. B. O.			1						
Mississippi	South of Capitol, M. D. H. & L			2					1	
Mississippi	South of Cayuga, D. H. & I			2						
Mississippi	North of N. P. Ry. M. & B. O			3						
Mississippi	North of Magnolia			2					1	
Mt. Airy	West of Mississippi			1						
Mt. Ida	West line of Desoto			1						
Michigan	West line of Seventh			1						
Mayall Alley	South line of Ninth		1							
Midway	West line of Woodbury			1						
Midway	East line of Oakland			1						
Nash	East and west line of Mississippi			4						
Neill	North line of Seventh		1							
Ninth	West line of Neill		1							
Ninth	East and west line of Locust		1	1						
Ninth	East and west line of Broadway			4						
Ninth	West line of Sibley			1						
Ninth	East and west line of Jackson			2						
Ninth	East line of Minnesota			1						
Ninth	East and west line of Cedar			2						
Ninth	East line of Wabasha		1							
Ninth	West line of St. Peter			1						
Ninth	East and west line of Fort			2						
Norris	West line of Canada		1							
Norris	East line of Temperance		1							
North	West line of Bradley			1						
Olive	South line of Seventh		1							
Olive	North and south line of Grove		2							
Olive	South line of Olmsted		1							
Olive	N. line of Olmsted, div. H. & L. service			1						

LOCATION OF VALVES (LOW SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
Oneida	South line of Seventh			1						
Otsego	North line of Lafayette			1						
Oakdale	South line of Prescott			1						
Partridge	West line of Bradley		1							
Pine	North line of Ninth		1							
Pine	North line of Grove			1						
Pine	South line of Olmsted			1						
Pleasant	East and west line of Third			2						
Pleasant	East line of Walnut			1						
Pleasant	West line of Thompson			1						
Prince	East line of Broadway			1						
Payne	North line of Minnehaha			1						
Payne	South line of Fauquier			1						
Pennsylvania	East and west line of Mississippi			3						
Pennsylvania	West line of L'Orient			1						
Preble	North line of Beaumont			1						
Prescott	East line of Oakdale			1						
Ramsey	West line of Seventh					1				
Ramsey	West line of Thompson			1						
Ramsey	East line of Pleasant			1						
Randolph	East and west line of Seventh			1	1					
Randolph	East and west line of Victoria				2					
Richmond	South line of Seventh			1						
Right of way	North of Maryland B. O			1						
Right of way	B. O. 300 feet south of Como and Phalen			1						
Right of way	S. line of Como and Phalen, M. and B. O.			1					1	
Right of way	B. O. 2,000 feet north of Como and Phalen			1						
Right of way	At pumping station, M. and B. O.			1					1	1
Robert	North line of Louisa			1						
Robert	South line of George			1						
Robert	North line of Concord			1						
Robert	North and south line of Isabel			2						
Robert	North line of Delos			1						
Robert	North line of Colorado			1						
Robert	South line of Plato			1						
Robert	South line of Chicago			1						
Robert	North and south line of Indiana			2						
Robert	North line of Fairfield			1						
Robert	North and south line of Third			2						
Robert	North line of Fourth			1						
Robert	North line of Fifth			1						
Robert	North and south line of Seventh			2						
Robert	North line of Eighth			1						
Robert	North line of Ninth			1						
Robert	South line of Eleventh			1						
Robert	North and south line of Twelfth			2						
Robert	South line of Fourteenth			1						
Reaney	East line of Edgerton			1						
Rosabel	South line of Fourth			1						
Rosabel	North line of Fifth			1						
Rosabel	South line of Seventh			1						
Robie	West line of Anita			1						
Robie	East line of State			1						
St. Clair	East line of Seventh			1						
St. Peter	North line of Third			1						
St. Peter	North line of Fourth			1						
St. Peter	South line of Sixth			1						
St. Peter	North and south line of Seventh			2						
St. Peter	North and south line of Tenth			2						
St. Peter	N. line of College ave., H. and L. service			1						
Seventh	West line of Kittson			1						
Seventh	East and west line of Locust			1		1				
Seventh	East and west line of Broadway					2				
Seventh	East and west line of Jackson					2				
Seventh	Centre of Robert, B. O	1								
Seventh	East line of Wabasha					1				
Seventh	East line of St. Peter				1					
Seventh	East line of Third				1					
Seventh	West line of Eagle					1	1			
Seventh	West line of Chestnut on H			1						

LOCATION OF VALVES LOW SERVICE—Continued.

STREET.	LOCATION.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Seventh	At Walnut, H. & H.	1		1						
Seventh	North and south line of Ramsey, M. & H.			1		1	1			
Seventh	West line of Queen				1					
Seventh	South line of McBean					1				
Seventh	At Goodrich, A.	1								
Seventh	North line of Pearce					1				
Seventh	South line of Milwaukee Ry., M. & H.					1				
Seventh	At Jackson, H. & A.	1	1							
Seventh	South line of Pierce					1				
Seventh	At James, A.	1								
Seventh	South line of Anderson					1				
Seventh	At Lee, A.	1								
Sherman	South line of Ironwood			1						
Sherman	South line of Wilkin			1						
Sherman	North and south line of Seventh			1						
Sherman	South line of Pleasant			1						
Shiley	North and south line of Third		1	1						
Shiley	South line of Fifth		1	1						
Shiley	North and south line of Seventh		1	1						
Shiley	North line of Ninth		1							
Shiley	North line of Tenth		1							
Shiley	North line of Superior		1							
Sixth	West line of Kittson		1							
Sixth	West line of Neil		1							
Sixth	West line of Vernon		1							
Sixth	East line of Dean		1							
Sixth	East line of Dove		1							
Sixth	East and west line of Broadway		1							
Sixth	West line of Commercial		1							
Sixth	East line of Shiley		1							
Sixth	East and west line of Jackson		1							
Sixth	East line of Lowry		1							
Sixth	East line of Minnesota		1							
Sixth	East and west line of Cedar		1							
Sixth	East and west line of Wabasha		1							
Sixth	East line of Washington			1						
Sixth	South line of Seventh			1						
Sixth	East line of Ironwood			1						
Sixth	East and west line of Fort			1						
Sixth	North line of South avenue			1						
Smith street	West line of Wilkin			1						
Smith street	East and west line of Seventh			1						
Smith street	West line of South avenue			1						
Smith avenue	North and south line of Seventh			1						
Smith avenue	North line of South avenue			1						
Smith avenue	North line of Ramsey			1						
Smith avenue	North line of Sherman			1						
Smith avenue	North line of Walnut			1						
Smith avenue	North and south line of Third			1						
Smith avenue	North line of Sixth			1						
Somerset	West line of Hill		1							
Somerset	East line of Dale									
State	North and south line of Concord					1				
State	North line of State					1				
State	North line of Robinson					1				
State	South line of Wilkin					1				
State	South line of Prospect avenue					1				
Summit avenue	West line of Minnesota			1						
Stryker	North line of George			1						
Stryker	North line of Wilson			1						
Stryker	North and south line of Sarah			1						
Stewart	South line of Sarah									
Temperance	North line of Smith		1							
Temperance	North line of [illegible]		1							
Temperance	North and south line of Grove		1							
Tenth	West line of [illegible]			1						
Tenth	East and west line of Broadway		1	1						
Tenth	West line of Conrad		1							
Tenth	East and west line of Jackson		1							
Tenth	West line of Robert			1						

LOCATION OF VALVES (LOW SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
Tenth	East and west line of Cedar, M. and H.		1	1						
Tenth	Centre of Wabasha B. O.		1							
Tenth	West line of St. Peter						1			
Tenth	West of St. Peter on hydrant		1							
Tenth	West line of Fort			1						
Third	East and west line of Broadway				2					
Third	East line of Wacouta				1					
Third	East and west line of Jackson				2					
Third	West line of Minnesota				1					
Third	East line of St. Peter				1					
Third	East and west line of Washington				2					
Third	North and south line of Seventh			1	1					
Thirteenth	West line of Pine		1							
Thirteenth	East and west line of Mississippi			4						
Thirteenth	East and West line of Canada			2						
Thirteenth	East line of Jackson			1						
Thompson	North line of Ramsey			1						
Twelfth	East line of Broadway		2							
Twelfth	West line of Jackson, M. and B. O.		2							
Twelfth	West line of Minnesota on H.		1							
Twelfth	East line of Cedar on H		1							
Toronto	North and south line of Seventh			2						
Tennessee	East line of State			1						
Tuscarora	West line of Warsaw			1						
Tuscarora	East and west of Seventh			2						
Tuscarora	West line of Victoria			1						
Von Minden	East line of Western			1						
View	North line of Seventh			1						
View	South line of Armstrong			1						
View	South line of Juno			1						
View	South line of Randolph			1						
Wacouta	North line of Third			1						
Wacouta	South line of Fifth			1						
Wacouta	South line of Sixth			1						
Wacouta	North and south line of Seventh				2					
Wacouta	North line of Eighth		1							
Wacouta	North line of Tenth		1							
Walnut	South line of Exchange		1							
Walnut	North and south line of Seventh		2							
Walnut	South line of Pleasant		1							
Warsaw	South line of Seventh			1						
Washington	North line of Chestnut		1							
Washington	North and south line of Third				2					
Washington	North line of Fourth		1							
Washington	North line of Fifth		1							
Waverly Place	West line of Lafayette			1						
Waverly Place	East line of John			1						
Webster	South line of Seventh			1						
Webster	North line of Jefferson			1						
Western	North and south line of Seventh			2						
Western	North line of Goodhue			1						
Western	North and south line of Goodrich			2						
Western	North line of Harrison			1						
Willius	North line of Fifth		1							
Willius	South line of Seventh		1							
Wilkin	North line of Smith			1						
Winifred	East line of Bancroft			1						
Winifred	West line of Anita			1						
Winifred	East and west line of State			2						
Winifred	East line of Clinton			1						
Winifred	East line of Concord			1						
Winifred	West line of Hall			1						
Winifred	East line of Winslow			1						
Winifred	East line of Bellows			1						
Woodward	West line of Lafayette		1							
Woodward	West line of Bradley		1							
Wabasha	North and south line of Isabel			2						
Wabasha	North line of Colorado			1						
Wabasha	North line of Plato			1						
Wabasha	North and south line of Indiana			2						

LOCATION OF VALVES, LOW SERVICE — *Concluded.*

Streets	Location	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

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LOCATION OF VALVES (HIGH SERVICE).

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Arundel	North line of Summit		1						
Arundel	South line of Selby		1						
Arundel	North line of Dayton		1						
Arundel	North line of Marshall		1						
Arundel	North line of Charles		1						
Arundel	North line of Edmund		1						
Arundel	North line of Thomas		1						
Ashland	West line of Western			1					
Ashland	East line of Mackubin			1					
Ashland	East and west line of Dale			2					
Ashland	East line of Grotto			1					
Ashland	East and west line of Victoria			2					
Aurora	West line of Rice			1					
Aurora	East line of Jay			1					
Aurora	West line of Farrington			1					
Aurora	East and west line of Western			2					
Aurora	East line of Mackubin			1					
Aurora	East and west line of Dale			2					
Aurora	West line of Victoria			1					
Arcade	North line of Dawson			1					
Arcade	North and south line of Seventh			1	1				
Arcade	North line of Minnehaha				1				
Arcade	South line of Omaha Railway				1				
Arcade	North line of Duluth Railway, B. O	1							
Arcade	North and south line of Case				2				
Arcade	South line of Magnolia				1				
Astoria	North line of St. Anthony			1					
Auburn	West line of Fairview			1					
Arch	West line of Mt. Vernon			1					
Arch	East line of Jackson			1					
Atlantic	South line of Sixth			1					
Atlantic	South line of Ross			1					
Atwater	East line of Rice			1					
Agate	East line of Cortland			1					
Agate	North line of Granite			1					
Agate	South line of York			1					
Bates avenue	North line of Conway				1				
Bates avenue	South line of Seventh				1				
Beech	East and west line of Earl			2					
Beech	East line of Forest			1					
Beech	East line of Mendota			1					
Beech	South line of Seventh			1					
Blair	West line of Western			1					
Blair	East line of Mackubin			1					
Blair	East line of Dale			1					
Broadway	North line of Valley			1					
Brewster	North line of University			1					
Brewster	North line of Sherman			1					
Burr	South line of York			1					
Burr	North and south line of Case			2					
Burr	South line of Lawson			1					
Burgess	East line of Dale			1					
Bayless avenue	South line of Cudworth					1			
Bayless avenue	Head of Bayless, P. on H			1					
Bayless avenue	South line of Robbins, M. and H			1		1			
Bayless avenue	North line of Tainter, on H			1					
Bayless Place	East line of Bayless avenue		1						
Blake	East line of Scudder			1					
Blake	East line of Langford, P. P. E. on H			1					
Burns	East line of Mound			1					
Burns	East and west line of Earl			2					
Beacon	South line of University		1						
Buffalo	North line of Capitol			1					
Buffalo	South line of Granite			1					
Canada	North line of University			1					
Canada	South line of Valley			1					
Capitol	West line of Mississippi			1					
Capitol	East line of Cortland			1					
Capitol	East and west line of Jackson			2					

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Capitol	West line of Western			1					
Capitol	West line of Pascal			1					
Capitol	West line of Simpson			1					
Capitol	East and west line of Snelling			2					
Capitol	East line of Aldine			1					
Carroll	West line of Rice			1					
Carroll	East line of Louis			1					
Carroll	West line of Farrington			1					
Carroll	East and west line of Western			2					
Carroll	East line of Macknbin			1					
Carroll	East and west line of Dale			2					
Carroll	East line of Grotto			1					
Carroll	West line of Miller			1					
Carroll	East and west line of Victoria			2					
Carroll	West line of Snelling			1					
Carroll	East and west line of Fairview			2					
Carroll	East and west line of Prior			2					
Carroll	East line of Cleveland			1					
Conway	East and west line of Mendota			2					
Conway	East line of Maple			1					
Conway	East and west line of Bates			2					
Cedar	North and south line of Central			2					
Cedar	North and south line of University			2					
Cedar	South line of Viola			1					
Central avenue	East line of Cedar			1					
Central avenue	West line of Wabasha			1					
Central avenue	West line of St. Peter		1						
Central avenue	East line of Rice		1						
Cent. P.D.E.&W.	South of Central avenue		2						
Charles	West line of Rice			1					
Charles	West line of Gaultier			1					
Charles	East and west line of Western			2					
Charles	East line of Mackubin			1					
Charles	East and west line of Dale			2					
Charles	East line of Grotto			1					
Charles	East and west line of Victoria			2					
Como avenue	East and west line of Rice						2		
Como avenue	South line of Thomas on H.		1						
Como avenue	East line of Cleghorn on H.		1						
Como avenue	South line of Cafond on H.		1						
Como avenue	East and west line of Gaultier, M. and H.		1				1		
Como avenue	East line of Ellett on H.		1						
Como avenue	North line of Van Buren on H.		1						
Como avenue	North line of Minnehaha on H.		1						
Como avenue	West line of Virginia on H.		1						
Como avenue	East and west line of Western, M. and H.		1				2		
Como avenue	South line of Atwater B. O.			1					
Como avenue	South line of Topping						1		
Como avenue	East line of Dale						1		
Cherry	East line of Hedman			1					
Cook	East and west line Arcade			2					
Cook	West line of Greenleaf			1					
Cook	East line of Marion			1					
Cook	East line of Rice			1					
Case	East and west line of Arcade				2				
Case	West line of Greenleaf				1				
Case	East and west line of Edgerton				2				
Case	West line of De Soto				1				
Case	West line of McMenemy			1					
Chagnon	South line of Lake			1					
Cromwell	North line of Pym			1					
Chalworth	Head of city on H.			1					
Chalworth	South line of Ford					1			
Clark	North line of Vandall			1					
Clark	South line of Case			1					
Cross	East line of Arlington			1					
County road	South line of Dodge on H.			1					
Crocus Place	South line of Overland		1						
Crocus Place	South line of Harmonie		1						

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street.	Location.	3 inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Chatsworth	North line of Evergreen			1					
Cleveland	South line of University					1			
Cleveland	South line of Myrtle on H			1					
Cleveland	300 feet north of Milwaukee Railway on H			1					
Cleveland	South line of Gilbert on H			1					
Cleveland	North line of St. Anthony					1			
Cleveland	Head of Rondo on H			1					
Cortland	North and south line of Sycamore			1		1			
Cortland	North line of Agate on H			1					
Cortland	North line of York on H			1					
Cortland	North line of Poplar on H			1					
Cortland	North line of Case on M. and H			1		1			
Cortland	North line of Jenks on H			1					
Cortland	North line of Lawson on H			1					
Cortland	At Cook on H			1					
Cortland	North line of Magnolia on H			1					
Cortland	North line of Jessamine on H			1					
Cortland	North line of Geranium on H			1					
Cortland	North line of Rose on H			1					
Cortland	South line of Maryland on H			1					
Cayuga	West line of Mississippi			1					
Cayuga	East line of Agate			1					
Cayuga	East line of Cortland			1					
Dale	South line of Goodrich				1				
Dale	North and south line of Summit				1	1			
Dale	B. O. at Grand	1							
Dale	At Ashland B. O	1							
Dale	North and south line of Marshall					2			
Dale	North and south line of University		1			1		1	
Dale	North line of Lafond		1						
Dale	North line of Minnehaha							1	
Dale	South line of Ireland		1						
Dale	In Great Northern R. R. yard on H			1					
Dale	North line of Great Northern R. R		1						
Dale	North and south line of Front, M. and B. O		1	1				2	
Dale	B. O. at Nigger Lake			1					
Dale	North line of Como and Phalen avenues							1	
Dale	B. O. at German Lutheran cemetery			1					
Dale	Approach to reservoir, M. and B. O			2			2	1	
Dale	South line of McCarron road, M. and B. O			1			1		
Dayton	West line of Summit				1				
Dayton	East and west line of Western				2				
Dayton	East line of Mackubin				1				
Dayton	East and west line of Dale			1	1				
Dayton	East line of Grotto			1					
Dayton	West line of Miller			1					
Dayton	East and west line of Victoria			2					
Dayton	East line of Chatsworth			1					
Dayton	East line of Prior			1					
Dayton	East line of Moore			1					
Duluth	North line of Seventh			1					
De Soto	South line of York			1					
De Soto	North and south line of Case			2					
Dawson	East and west line of Mendota			2					
Dooley	East line of County road			1					
Earl	South line of Pacific				1				
Earl	North line of Beech				1				
Earl	South line of Seventh				1				
Edmund	West line of Rice			1					
Edmund	West line of Gaultier			1					
Edmund	East and west line of Western			1					
Edmund	East line of Mackubin			1					
Edmund	East and west line of Dale			2					
Edmund	East line of Grotto			1					
Edmund	East and west line of Victoria			2					
Eichenwald	South line of Seventh			1					
Euclid	West line of Cypress			1					
Euclid	East and west line of Mendota			2					
Everett Court	South line of Wheeler			1					

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Evergreen	West line of Victoria			1					
Farrington	North line of Summit			1					
Farrington	North line of Laurel			1					
Farrington	North and south line of Dayton			2					
Farrington	North line of Nelson			1					
Farrington	South line of Carroll			1					
Farrington	South line of Rondo			1					
Farrington	North line of Thomas			1					
Fauquier	West line of Duluth			1					
Fauquier	East and west line of Earl			2					
Fauquier	North and south line of Seventh			2					
Fauquier	East and west line of Arcade			2					
Fuller	West line of Rice			1					
Fuller	East line of Louis			1					
Fuller	West line of Farrington			1					
Fuller	East and west line of Western			2					
Fuller	East line of Mackubin			1					
Fuller	East and west line of Dale			2					
Fuller	West line of Victoria			1					
Fuller	East line of Chatsworth			1					
Fifth	East and west line of Bates			2					
Floral	South line of Summit		1						
Fourth	East and west line of Mendota			2					
Fourth	East line of Maple			1					
Fourth	East and west line of Bates			2					
Francis	West line of Mendota			1					
Front	West line of Rice				1				
Front	East line of Gaultier				1				
Front	East and west line of Western				2				
Front	East line of Mackubin				1				
Front	East and west line of Dale street main				2				
Front	East line of Grotto				1				
Front	East and west line of Victoria				2				
Front	East line of Chatsworth				1				
Front	East line of Lexington				1				
Forrest	North line of Conway			1					
Forrest	North line of Third			1					
Forrest	North line of Fremont			1					
Forrest	North line of Fourth			1					
Forrest	North line of York			1					
Forrest	South line of Case			1					
Forrest	North line of Jessamine			1					
Fairmont	East of St. Albans 275 feet			1					
Fairmont	East line of Grotto			1					
Fairmont	East line of Victoria			1					
Feronia	West line of Laura			1					
Feronia	East line of Prior			1					
Feronia	West line of Fairview			1					
Fremont	East and west line of Mendota			2					
Fairview	At Shields on H			1					
Fairview	North and south line of University					2			
Fairview	At Sherburne on H			1					
Grand	East line of Oakland			1					
Grand	East and west line of Dale			2					
Grand	East line of Grotto			1					
Grand	East and west line of Victoria			2					
Grand	East line of Lexington			1					
Grove	B. O. at Trout Brook sewer	1							
Grove	East line of Monroe place					1			
Grove	B. O. at Pine	1							
Grotto	South line of Grand			1					
Grotto	North and south line of Summit			2					
Grotto	South line of Holly			1					
Grotto	South line of Ashland			1					
Grotto	South line of Laurel			1					
Grotto	South line of Hague			1					
Grotto	South line of Selby			1					
Grotto	South line of Dayton			1					
Grotto	South line of Marshall			1					

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street.	Location.	3 inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Grotto	North line of Iglehart			1					
Grotto	North line of Carroll			1					
Grotto	North line of Sherburne			1					
Grotto	North line of Thomas			1					
Goodrich	East and west line of Dale			2					
Goodrich	East line of Grotto			1					
Goodrich	East and west line of Victoria			2					
Goodrich	East line of Chatsworth			1					
Greenbrier	North line of Seventh				1				
Greenbrier	North line of Case		1						
Gaultier	North line of Sherburne			1					
Gaultier	North line of Thomas			1					
Gaultier	North and south line of Front			2					
Gaultier	North line of Hatch			1					
Gaultier	North line of Lawson			1					
Gordon	East and west line of Scudder			2					
Geranium	West line of Arcade			1					
Geranium	West line of Edgerton			1					
Genesee	West line of Mississippi			1					
Granite	West line of Mississippi			1					
Granite	East line of Agate			1					
Granite	East line of Cortland			1					
Hoffman	South line of Seventh			1					
Hoffman	South line of McLean			1					
Hoffman	North line of River			1					
Holly	West line of Western			1					
Holly	East line of Mackubin			1					
Holly	East and west line of Dale			2					
Holly	East line of Grotto			1					
Holly	East line of Victoria			1					
Hague	West line of Dale			1					
Hague	East line of Grotto			1					
Hague	West line of Miller			1					
Hague	East and west line of Victoria			2					
Hague	East line of Chatsworth			1					
Hudson	East line of Mendota			1					
Hudson	East and west line of Bates			2					
Hastings	East and west line of Earl				2				
Hastings	East line of Frances				1				
Hastings	West line of Maple				1				
Hastings	West line of Monnd				1				
Hewitt	West line of Sheldon			1					
Hewitt	West line of Holton			1					
Hewitt	West line of Simpson			1					
Hewitt	East and west line of Snelling			2					
Hope	South line of Seventh			1					
Hampden	East line of Raymond			1					
Iglehart	West line of Wabasha			1					
Iglehart	East and west line of Rice			2					
Iglehart	West line of Summit Place			1					
Iglehart	West line of Louis			1					
Iglehart	West line of Farrington			1					
Iglehart	East and west line of Western			2					
Iglehart	East line of Mackubin			1					
Iglehart	East and west line of Dale			2					
Iglehart	East line of Grotto			1					
Iglehart	West line of Miller			1					
Iglehart	East and west line of Victoria			2					
Iglehart	East line of Chatsworth			1					
Iglehart	East and west line of Prior			2					
Jackson	North line of University			1					
Jackson	South line of Valley			1					
Jackson	North and south line of Como				1	1			
Jackson	South line of Pennsylvania				1				
Jackson	South line of Sycamore				1				
Jay	South line of Martin			1					
Jay	South line of Fuller			1					
Jessamine	East and west line of Arcade			2					
Jessamine	West line of Greenbrier			1					

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street.	Location.	3-inch.	4 inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.
Jessamine	East and west line of Edgerton			2					
Jessamine	East line of Bradley			1					
Jessamine	West line of Burr			1					
Jessamine	West line of Clark			1					
Jessamine	West line of Arkwright			1					
Jessamine	East and west line of McNeneemy			2					
Jessie	North line of Case			1					
Jessie	North line of Jenks			1					
Jessie	North line of Lawson			1					
Jessie	North line of Cook			1					
Jessie	North line of Magnolia			1					
Kent	South line of Holly		1						
Kent	South line of Ashland		1						
Kent	South line of Laurel		1						
Kent	South line of Selby		1						
Kent	North line of Marshall		1						
Kent	North line of Iglehart		1						
Laura	North and south line of Waltham			2					
Laura	South line of University			1					
Laurel	West line of Nina			1					
Laurel	East line of Virginia			1					
Laurel	East and west line of Western			2					
Laurel	East line of Mackubin			1					
Laurel	East and west line of Dale			2					
Laurel	East line of Grotto			1					
Laurel	West line of Miller			1					
Laurel	East and west line of Victoria			2					
Laurel	East line of Chatsworth			1					
Lawton	South line of Summit			1					
Lincoln	West line of Oakland			1					
Lincoln	East and west line of Dale			2					
Lincoln	East line of Grotto			1					
Lincoln	East and west line of Victoria			2					
Lincoln	East line of Grotto			1					
Louis	North line of Nelson			1					
Louis	South line of Carroll			1					
Louis	South line of Rondo			1					
Louis	South line of St. Anthony			1					
Louis	South line of Martin			1					
Louis	South line of Fuller			1					
Lafond	West line of Rice			1					
Lafond	East line of Como			1					
Lafond	West line of Western			1					
Lafond	East line of Mackubin			1					
Lafond	East and west line of Dale			2					
Lafond	East line of Grotto			1					
Lafond	East and west line of Victoria			2					
Lynnhurst W	North line of Feronia			1					
Lynnhurst E	East line of Lynnhurst W			1					
Lexington	South line of Summit					1			
Lexington	North line of Front					1			
Lexington	South line of N. P. Ry. on H			1					
Lexington	South line of Van Slyke					1			
Langford P.P.E.	East line of Bayless					1			
Langford P.P.E.	South line of Knapp			1					
Langford P.P.W	West line of Bayless				1				
Langford P.P.W	200 feet south of Blake			1					
Langford P.P.W	North line of Gordon			1					
Langford ave.	West line of Scudder on H			1					
Langford ave.	East line of Knapp on H			1					
Litchfield	West line of Rice			1					
Leslie	West line of Victoria			1					
McCarron road	South of pumping station						1		
McCarron road	B. O. at Trout brook			1					
McCarron road	South of McCarron lake, M. and B. O			1			1		
McCarron road	West line of Dale						1		
Mackubin	North line of Summit			1					
Mackubin	South line of Holly			1					
bin	South line of Ashland			1					

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6 inch.	12-inch.	16-inch.	20 inch.	24-inch.	36-inch.
Mackubin	South line of Laurel			1					
Mackubin	South line of Selby			1					
Mackubin	North and south line of Dayton			2					
Mackubin	North line of Marshall			1					
Mackubin	North line of Iglehart			1					
Mackubin	North line of Carroll			1					
Mackubin	North line of Rondo			1					
Mackubin	North line of St. Anthony			1					
Mackubin	North line of Martin			1					
Mackubin	South line of Aurora			1					
Mackubin	North and south line of University			2					
Maple	South line of Hudson			1					
Maple	North line of Euclid			1					
Maple	North line of Conway			1					
Maple	South line of Fourth			1					
Maple	North line of Fifth			1					
Maple	South line of Seventh			1					
Margaret	East and west line of Earl			2					
Margaret	East line of Forrest			1					
Margaret	East and west line of Mendota			2					
Margaret	North and south line of Seventh			2					
Margaret	East line of Greenbrier			1					
Martin	East and west line of Rice			2					
Martin	West line of Louis			1					
Martin	West line of Farrington			1					
Martin	East and west line of Western			2					
Martin	East line of Mackubin			1					
Martin	East and west line of Dale			2					
Martin	West line of Victoria			1					
Maria	South line of McLean			1					
Maria	South line of Cherry			1					
Maria	North line of Plum			1					
Maria	North line of Hudson			1					
Maria	South line of Ravine			1					
Maria	North line of Conway			1					
Maria	South line of Fourth			1					
Maria	North line of Fifth			1					
Maria	North and south line of Seventh			2					
Marshall	West line of Western			1					
Marshall	East line of Mackubin			1					
Marshall	East and west line of Dale			1	1				
Marshall	West line of Grotto				1				
Marshall	East line of Victoria				1				
Marshall	East line of Prior				1				
Marshall	East and west line of Fairview				2				
Mendota	North line of Hudson				1				
Mendota	B. O. at Euclid	1							
Mendota	South line of Fourth				1				
Mendota	North line of Margaret, M. and B. O.	1			1				
Mendota	North and south line of Seventh, M. and B.O.	1		1	1				
Mendota	South line of Fauquier			1					
Mt. Airy	East line of Linden			1					
Mt. Airy	West line of Warren			1					
Maryland	East and west line of Dale street main				2				
Marion	North line of University			1					
Marion	North line of Sherburne			1					
Marion	North line of Charles			1					
Marion	North line of Edmund			1					
Marion	North line of Thomas			1					
Minnehaha	East and west line of Earl			2					
Minnehaha	North and south line of Seventh			2					
Minnehaha	West line of Arcade				1				
Minnehaha	East line of Greenbrier				1				
Minnehaha	West line of Dale				1				
Minnehaha	East line of Pascal				1				
Minnehaha	East line of Snelling				1				
Mound	North and south line of Burns			1	1				
Manvel	East and west line of Bayless			2					
Magnolia	East line of Forrest			1					

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street	Location	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.
Magnolia	East and west line of Arcade			2					
Magnolia	West line of Greenbrier			[illegible]					
Magnolia	East line of Edgerton			[illegible]					
Miller	North line of Argyle		[illegible]						
Miller	North line of Carroll		[illegible]						
[illegible]	North line of Third		[illegible]						
Milford	West line of Erie			[illegible]					
Milford	West line of [illegible]			[illegible]					
Milford	East line of Woodbridge			[illegible]					
Nassau	West line of Summit			[illegible]					
Nassau	East line of [illegible]			[illegible]					
Nassau	East line of Woodbury			[illegible]					
[illegible]	North line of [illegible]			[illegible]					
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
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[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								2
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street.	Location.	3-inch.	4 inch.	6-inch.	12-inch.	16 inch.	20-inch.	24-inch.	36-inch.
Rice	North line of Edmund, H and B. O		2						
Rice	North and south line of Como				1		1		
Rice	North line of Van Buren				1				
Rice	North and south line of Sycamore				1	1			
Rice	Lyton Place on H			1					
Rice	South line of Wayzata			1					
Rice	North and south line of Front					2			
Rice	North line of Hatch on H			1					
Rice	North line of Lawson on H			1					
Rice	North line of Cook on H			1					
Rice	North line of Olivier on H			1					
Robert	South line of Aurora			1					
Robert	North and south line of University			2					
Robert	North line of Valley			1					
Rondo	West line of Rice			1					
Rondo	East line of Louis			1					
Rondo	West line of Farrington			1					
Rondo	East and west line of Western			2					
Rondo	East line of Mackubin			1					
Rondo	East and west line of Dale			2					
Rondo	East line of Grotto			1					
Rondo	West line of Miller			1					
Rondo	East and west line of Victoria			2					
Rondo	East and west line of Prior			2					
Reaney	West line of Duluth			1					
Reaney	East and west line of Earl			2					
Reaney	North and south line of Seventh			2					
Reaney	East and west line of Arcade			2					
Ramsey	East line of Summit			1					
Ross	West line of Duluth			1					
Ross	East and west line of Earl			2					
Ross	South line of Seventh			1					
Ravoux	South line of St. Anthony		1						
Ravoux	South line of Fuller		1						
Ravine	East and west line of Bates		2						
Raymond	North line of University, M. and H			1		1			
Raymond	South line of Territorial Road, on H			1					
Raymond	North line of Ellis on H			1					
Raymond	East line of Bayless			1					
Raymond	South line of Manvel			1					
Raymond	North line of Wheeler			1					
Raymond	South line of Atty			1					
Raymond	South line of Pratt			1					
Robbins	East line of Bayless			1					
Rose	West line of Arcade			1					
River	West line of Maria		1						
St. Anthony	West line of Rice			1					
St. Anthony	West line of Louis			1					
St. Anthony	West line of Farrington			1					
St. Anthony	East and west line of Farrington			2					
St. Anthony	East line of Mackubin			1					
St. Anthony	East and west line of Dale			2					
St. Anthony	East line of Grotto			1					
St. Anthony	West line of Miller			1					
St. Anthony	East and west line of Victoria			2					
St. Anthony	West line of Snelling			1					
St. Anthony	West line of Fry			1					
St. Anthony	West line of Aldine			1					
St. Anthony	West line of Wheeler			1					
St. Anthony	East and west line of Fairview			2					
St. Anthony	East and west line of Prior			2					
St. Anthony	East line of Cleveland			1					
St. Peter	South line of Iglehart			1					
St. Peter	South line of Tilton			1					
St. Peter	North and south line of Martin			2					
St. Peter	South line of University			1					
Selby	West line of Summit			1					
Selby	West line of Nina			1					
Selby	West line of Farrington			1					

LOCATION OF VALVES (HIGH SERNICE)—*Continued.*

Street.	Location.	3-inch.	4 inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Selby	East and west line of Western			2					
Selby	East line of Mackubin			1					
Selby	East and west line of Dale			2					
Selby	East line of Grotto			1					
Selby	West line of Miller			1					
Selby	East and west line of Victoria			2					
Selby	East line of Chatsworth			1					
Seventh	West line of Phalen					1			
Seventh	East line of Duluth					1			
Seventh	East and west line of Earl, M. and B. O.		1			1			
Seventh	South line of Fauquier					1			
Seventh	Blow-off at Mendota	1							
Seventh	North line of Beech					1			
Seventh	West line of Maple, M. and B. O.	1				1			
Seventh	West line of Hoffman, M. and B. O.	1				1			
Sherburne	West line of Cedar			1					
Sherburne	East line of Park			1					
Sherburne	East and west line of Rice			1					
Sherburne	West line of Gaultier			1					
Sherburne	East and west line of Western			2					
Sherburne	East line of Mackubin			1					
Sherburne	East and west line of Dale			2					
Sherburne	East line of Grotto			1					
Sherburne	East and west line of Victoria			2					
Suction main	Northeast of pumping station, M. and B. O.			1				2	
Summit avenue	East line of Wabasha			1					
Summit avenue	East line of St. Peter			1					
Summit avenue	East and west line of Rice, M. and B. O.	1		1	1				
Summit avenue	South line of Dayton			1					
Summit avenue	North line of Nina			1					
Summit avenue	East line of Western			1					
Summit avenue	East line of Mackubin				1				
Summit avenue	Blow-off at Oakland	1							
Summit avenue	East and west line of Dale				2				
Summit avenue	East line of Grotto				1				
Summit avenue	East and west line of Victoria				2				
Summit avenue	East line of Chatsworth				1				
Summit avenue	East and west line of Lexington				2				
Summit avenue	East line of Griggs				1				
Summit avenue	West line of Snelling		1						
Summit Place	North line of Nelson			1					
Summit Place	South line of Carroll			1					
Summit Place	South line of Rondo			1					
Summit Place	South line of St. Anthony			1					
Summit Place	South line of Martin			1					
Summit Place	South line of Fuller			1					
St. Albans	North line of Pleasant				1				
St. Albans	South of Kenwood Park drive			1					
St. Albans	South of Fairmont			1					
St. Albans	South of Laurel		1						
St. Albans	North line of Marshall		1						
St. Albans	North line of Iglehart		1						
St. Albans	North line of Carroll		1						
St. Albans	North line of St. Anthony		1						
Sims	East and west line of Arcade			2					
Sims	West line of Greenbrier			1					
Sims	East line of Edgerton			1					
Short	West line of Maria			1					
Short	East line of Hoffman			1					
Snelling avenue	At Goodrich on H			1					
Snelling avenue	At Lincoln on H			1					
Snelling avenue	South line of Grand on H			1					
Snelling avenue	North and south line of Summit, M. and H.			1		2			
Snelling avenue	South line of Ashland on H			1					
Snelling avenue	South line of Hague on H			1					
Snelling avenue	South line of Selby on H			1					
Snelling avenue	South line of Marshall, M. and H.			1		1			
Snelling avenue	North line of Milwaukee Short Line					1			
Snelling avenue	North line of Carroll on H			1					

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Snelling avenue	North line of St. Anthony on H			1					
Snelling avenue	North line of Shields on H			1					
Snelling avenue	North and south line of University				2				
Snelling avenue	At Edmund on H			1					
Snelling avenue	At Blair on H			1					
Snelling avenue	North and south line of Minnehaha, M. and H			1	2				
Snelling avenue	North line of Capitol on H			1					
Snelling avenue	North line of Wesley on H			1					
Snelling avenue	South line of Manitoba Ry. on H			1					
Simpson	South line of Wesley			1					
Simpson	South line of Hewitt			1					
Sixth	West line of Arcade			1					
Sixth	West line of Hope			1					
Sixth	West line of Maple			1					
Sixth	East and west line of Bates			2					
Sixth	West line of Maria			1					
Sidney	East line of Raymond			1					
Scudder	At Atty on H			1					
Scudder	South line of Langford					1			
St. Clair	West line of Victoria				1				
St. Clair	East line of Chatsworth				1				
Stinson	West line of Gaultier			1					
Sycamore	West line of Cortland				1				
Sycamore	East line of Sylvan				1				
Sycamore	East line of Rice				1				
Third	East and west line of Mendota			2					
Third	East line of Maple			1					
Third	East and west line of Bates			2					
Third	South line of Summit			1					
Third, North	North line of East Third			1					
Thirteenth	B. O. at Broadway north	1							
Tilton	East line of St Peter			1					
Tilton	East line of Rice			1					
Thomas	West line of Como			1					
Thomas	West line of Gaultier			1					
Thomas	East line of Farrington			1					
Thomas	East and west line of Western			2					
Thomas	East line of Mackubin			1					
Thomas	East and west line of Dale			2					
Thomas	East line of Grotto			1					
Thomas	West line of Victoria			1					
Topping	West line of Como			1					
Topping	East line of Dale			1					
Taylor	West line of Pascal			1					
Taylor	West line of Simpson			1					
Taylor	East and west line of Snelling			2					
Territorial Road	West line of Raymond			1					
Territorial Road	East line of Cromwell			1					
University	South line of Valley					1			
University	B. O. 275 feet west of Canada	1							
University	West line of Robert					1			
University	East and west line of Rice, M. and B. O	1			1	1			
University	West line of Gaultier				1				
University	East and west line of Western				2				
University	East line of Mackubin				1				
University	East and west line of Dale				1		1		
University	East line of St. Albans on H		1						
University	East line of Grotto on H		1						
University	East line of Avon on H		1						
University	East and west line of Victoria, M. and H		1				2		
University	East line of Milton on H		1						
University	East line of Chatsworth on H		1						
University	East line of Oxford on H		1						
University	East and west line of Lexington, M. and H		1				2		
University	East line of Dunlap on H. B			1					
University	East line of Griggs on H		1						
University	East line of Syndicate on H. B			1					
University	East and west line of Hamline, M and H		1				2		
University	East line of Albert on H. B			1					

LOCATION OF VALVES—HIGH SERVICE—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.
University	East line of [illegible], on E.	—	[illegible]	—	—	—	—	—	—
University	East line of Simpson on E. B.	—	—	[illegible]	—	—	—	—	—
University	East line of Asbury on E. B.	—	—	[illegible]	—	—	—	—	—
University	East and west line of Snelling, W. and E.	—	[illegible]	—	—	—	[illegible]	—	—
University	East line of Fry on E. B.	—	[illegible]	—	—	—	—	—	—
University	East line of [illegible] on E.	—	[illegible]	—	—	—	—	—	—
University	East line of Wheeler on E.	—	[illegible]	—	—	—	—	—	—
University	East and west line of Fairview, W. and E.	—	[illegible]	—	—	—	[illegible]	—	—
University	East and west line of [illegible] on W. and E.	—	[illegible]	—	—	—	[illegible]	—	—
University	East end of Transfer bridge on E.	—	—	[illegible]	—	—	—	—	—
University	Centre of Transfer bridge on E.	—	—	[illegible]	—	—	—	—	—
University	West line of Cleveland, W. and E.	—	—	[illegible]	—	—	[illegible]	—	—
University	West line of Montgomery on E.	—	—	—	—	—	—	—	—
University	West line of [illegible] on E.	—	—	—	—	—	—	—	—
University	West line of [illegible] on E.	—	—	[illegible]	—	—	—	—	—
University	West line of [illegible] on E.	—	—	—	—	—	—	—	—
University	West line of [illegible] on E.	—	—	—	—	—	—	—	—
University	West line of [illegible] on E.	—	—	—	—	—	—	—	—
University	East line of [illegible]	—	—	—	—	—	[illegible]	—	—
[illegible]	West line of Broadway.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	West line of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	East line of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	East line of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible] Dayton	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOCATION OF VALVES (HIGH SERVICE)—*Concluded.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Wheeler avenue	South line of University			1					
Woodbridge	South line of Front			1					
York	East and west line of Arcade			2					
York	West line of Greenbrier			1					
York	East and west line of Edgerton			2					
York	East line of Bradley			1					
York	East line of Clark			1					
York	East line of Cortland			1					
		22	80	745	99	59	29	8	2

Number of valves laid this year on high service 205
Total number of valves on high service 1,044
Total number of valves on high and low service 1,707

Reference—M., main; B. O., blow-off; H., on hydrant; H. B., on hydrant branch.

INVENTORY OF STOCK AND TOOLS, DEC. 1, 1890.

12 feet 36 inch pipe.
120 " 30 " "
198 " 24 " "
168 " 20 " "
48 " 16 " "
600 " 12 " "
876 " 6 " "
2,322 " 4 " "
31 " 3 " "
7 pieces 30 inch curvature pipe.
4 " 24 " " "
4 " 16 " " "
8 " 12 " " "
31 " 6 " " "
25 " 4 " " "
1 " 12 " quarter bend.
5 " 6 " " "
5 " 4 " " "
1 36 inch sleeve.
1 30 " "
3 24 " sleeves.
4 20 " "
3 16 " "
6 12 " "
13 6 " "
10 4 " "
1 24 " plug.
2 20 " plugs.
4 16 " "

9 12 inch plugs.
69 6 " "
10 4 " "
1 30x6 4-way branch.
1 24x6 4-way "
2 24x4 3-way "
1 20x6 4-way "
4 16x6 4-way "
1 16x3 3-way "
2 12x12 4-way "
1 12x12 3-way "
4 12x6 4-way "
4 12x6 3-way "
1 12x4 4-way "
1 12x4 3-way "
1 12x3 3-way "
4 6x6 4-way "
14 6x4 4-way "
15 6x4 3-way "
7 6x3 3-way "
4 4x4 4-way "
3 4x4 3-way "
1 20x24 Y.
1 16x20 Y.
2 Reducers from 20 to 12 inch.
1 Reducer from 16 to 12 inch.
565 Pounds of pig lead.
275 Pounds hemp packing.
7 Cans blasting powder.

INVENTORY OF STOCK AND TOOLS — *Continued.*

CAPS AND CAPS DUPLICATE.

[illegible]

HYDRANTS.

[illegible]

[illegible] TOOLS.

[illegible]

CONNECTION STOCK AND TOOLS.

[illegible]

STABLE AND MISCELLANEOUS ACCOUNT.

[illegible]

[illegible]

[illegible]

ST. PAUL WATER WORKS PUMPING STATION, LAKE MCCARRON.

DEC. 1, 1890.

To the Hon. Board of Water Commissioners of the City of St. Paul, Minn.,

SIR: I herewith submit the sixth annual report of the operations of these works, the same being for the year ending November, 1890.

The total quantity of water pumped is 788,087,400 gallons.

The daily average is 2,159,142 gallons.

Daily increase from 1889 to 1890, 335,147 gallons.

Total coal consumed during the year, 862½ tons.

Daily average coal used, 4,726 pounds; including steam heating and changing boiler.

Engines and boiler have been in continual operation during the year and are in good condition, requiring only repacking, no repairing.

Respectfully submitted,

MARTIN FEIST,

Engineer.

ST. PAUL WATER WORKS PUMPING STATION AT LAKE McCARRON.

ENGINEER'S REPORT,

Operation of Engines 1 and 2.

FOR THE YEAR ENDING NOVEMBER 30, 1890.

Months.	Number of Hours Pumping.		Number of Revolutions.		Number of Gallons Pumped.		Average per day Pumped.	Pounds of Coal Used.		Average Coal Used per Day.	Pressure on Pump.
	Engine No. 1.	Engine No. 2.	Engine No. 1.	Engine No. 2.	Engine No. 1.	Engine No. 2.		Engine No. 1.	Engine No. 2.		
December, 1889	741	.....	1,498,600	.....	47,955,200	.....	1,547,564	118,996	.....	3,838	64
January, 1890	742	.....	1,625,700	.....	52,022,400	.....	1,678,141	119,123	.....	3,818	64
February	656	10	1,470,600	16,400	47,059,200	1,115,200	1,720,514	106,635	2,427	3,895	64
March	740	.....	1,711,400	.....	54,764,800	.....	1,850,200	125,259	.....	4,025	64
April	637	64	1,478,200	120,700	47,3[illegible]2,400	8,802,400	2,235,729	111,416	16,422	4,261	64
May	226½	430	581,100	745,800	18,595,200	50,714,400	2,362,320	37,070	99,910	4,417	64
June	10	510	85,900	1,031,000	716,600	70,108,000	2,350,000	2,363	137,005	4,645	64
July	.....	713	.....	1,216,900	.....	82,749,200	2,669,329	.....	162,499	5,214	64
August	11	734	26,500	1,303,100	848,000	8[illegible],610,800	2,729,380	2,107	166,481	5,438	64
September	93	634	239,100	987,700	7,651,200	67,163,600	2,493,800	14,951	122,157	4,570	64
October	8	718	21,500	1,052,700	688,000	70,223,600	2,265,270	3,501	133,986	4,451	64
November	86½	670	104,600	1,002,200	3,347,400	68,149,600	2,383,200	7,424	135,404	4,741	64
Total	3,901	4,492	8,765,890	7,457,894	280,950,600	507,136,800	.....	748,848	976,291	.....	.....

Total number of gallons pumped during the year, 788,087,400.
Total number of tons coal consumed during the year, 862½.
NOTE—Coal for heating engine house and engineer's house and changing boiler is included in above statement.

MARTIN FEIST,
Engineer.

INVENTORY OF TOOLS AND STOCK AT LAKE McCARRON PUMPING STATION.

1 Vise.
1 Set screw dies from ¼ to 1 inch and taps.
2 Sets pipe dies from ¼ to 2 inch and taps.
2 Pipe cutters.
1 Pair pipe tongs No. 3.
1 24-inch pipe wrench.
1 12-inch pipe wrench.
1 20-inch Coe's wrench.
1 14-inch Coe's wrench.
1 8-inch Coe's wrench.
1 Portable blacksmith forge.
1 Anvil.
1 Sledge hammer.
1 Hand hammer.
1 Soft hammer.
4 Files.
2 Saws.
1 Axe.
1 Hatchet.
1 1½ ton chain block.
35 Feet 1-inch rope.
50 Feet linen hose, 1¼ inch.
25 Feet linen hose, ¾ inch.
10 Feet steam hose, 1 inch.
3 Oil tanks.
2 1-quart oil cans.
1 2-quart oil can.
3 hand oilers.
1 Quart measure.
75 Feet ¾ inch ropes and block.
1 12-inch level.
1 Steel coal wheelbarrow.
1 Sand wheelbarrow.
2 Coal scoops.
1 Fairbanks scale, 6 tons.
1 Fairbanks scale, 1 ton.
1 Grindstone.
4 Large lanterns.
4 Small lanterns.
1 Clock.
1 Writing desk.
3 Chairs.
2 Ladders.
1 Step ladder.
1 Good cupboard.
1 Clothing cupboard.
1 Oil and waste cupboard.
1 Work bench.
6 Spittoons.
1 Ratchet brace and bit.
2 8-inch long jack screws.
1 Draw knife.
1 Edson pressure recordinggauge.
75 Tons coal.
100 Pounds waste.
25 Gallons cylinder oil.
30 Gallons engine oil.
40 Gallons kerosene oil.
25 Pounds plunger packing.
12 Pounds piston packing.
½ Box soap.
1 2-ton chain block.
3 3-ton chain blocks.

759974

ENGINEER'S REPORT FROM LAKE BALDWIN STATION.

ENDING NOVEMBER 30, 1899.

Months.	No. of Hours Pumping.	No. of Revolutions.	No. of Gallons Pumped.	Average per Day Pumped.	No. of Pounds of Coal Used.	No. of Cords of Wood Used.	Pressure on Pump.
January, 1899	248	133,700	28,077,000	1,800,000	15,325	12¾	4 lbs.
February	.....	.....	.....	.....	.....	.....	"
March	294	153,500	32,256,000	2,000,000	16,467	17½	"
April	560	504,000	106,022,000	4,509,000	33,278	39½	"
May	573	860,700	180,747,000	6,400,000	3,241	97	"
June	689	1,077,200	225,813,000	7,746,000	5,024	86¼	"
July	704	1,085,700	227,097,000	7,393,000	25,216	[illegible]	"
August	708	1,121,700	235,537,000	7,561,000	.....	117¼	"
September	518	890,000	208,200,000	8,000,000	.....	104½	"
October	322	428,314	89,847,000	6,424,700	.....	70	"
November	479	582,300	152,993,000	7,799,000	.....	96¼	"
	7,299	7,104,400	1,491,626,000		107,751	766¼	

Total number of gallons pumped during the year, 1,491,626,000.
Total number of tons of coal used during the year, 53½ tons.
Total number of cords of wood used, 766¼ cords.

J. ABRESCH,
Engineer.

INVENTORY OF TOOLS AND STOCK AT BALDWIN LAKE PUMPING STATION.

1 [illegible]
[illegible] air pipe gauge.
[illegible] 24 inch pipe wrench.
[illegible] 18 inch pipe wrench.
[illegible] 24 inch pipe wrench.
[illegible] 18 inch pipe wrench.
[illegible] pipe wrench.
1 sledge hammer.
2 saws.
1 jack screw.
1 axe.
[illegible] 1 [illegible] shovel.
2 [illegible] chisels.
1 [illegible] measure.
1 steel coal shovel.
1 wood shovel.
1 [illegible] wood.
2 grindstones.
2 large lanterns.
2 small lanterns.
1 bracket lamp.
1 hook.
1 draw knife.
2 ice chisels.
2 ice tongs.
1 ice scoop.
1 ratchet brace and bit.
1 coal chute.
1 hatch.
1 [illegible] steam line cleaner.
70 ft. rubber hose.
20 gal. [illegible] oil.
25 gal. kerosene oil.
30 gal. engine oil.
[illegible] cords wood.
70 tons coal.
20 lbs. waste.
5 lbs. asbestos packing.

ATTORNEY'S REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS,
ST. PAUL, MINN., Dec. 1, 1890.

To the Honorable The Board of Water Commissioners,

GENTLEMEN: I respectfully report the condition of this office for the year ending Nov. 30, 1890.

The motion for a new trial in case of Wilson & Rogers *v.* The Board of Water Commissioners, referred to in my report for the year 1885, is still in court undecided.

The case of Edner P. Webb *v.* The Board of Water Commissioners, referred to in the report for 1889, claiming title to lot one (1), section 30, township 30, range 22, was tried before Judge Brill on the twenty-ninth of January, 1890, and on the twenty-eighth day of March, an opinion was filed giving judgment in favor of defendants, an appeal was taken by the plaintiff to the supreme court. The case has not yet been decided.

The case W. H. De Savigny, referred to in report for 1889, the demurrer to the complaint has never been argued; no notice for that purpose was ever served on the defendants.

On the eighteenth of January, 1890, complaint was served in proper form by John Fred Eisenmenger *v.* Board of Water Commissioners, praying for an injunction to restrain the water board from opening waste weir "B," which he alleged in his complaint caused the water to flood his land some distance below to his damage.

On the first of February, 1890, a demurrer was filed to the complaint, and on the fifteenth of February arguments on the demurrer were heard before Judge Brill.

On the twentieth of February Judge Brill filed an opinion overruling the demurrer.

An appeal was immediately taken to the supreme court.

March 7, 1890, affidavits on motion for injunction pending proceedings on appeal were served; on the twelfth of April the motion was argued before Judge Brill, and order made granting an injunction. On the fifteenth of April I filed a supersedeas bond, and the court refused to order an injunction to issue.

The cause were set for hearing in the supreme court for the sixth of November, and was that day submitted on briefs by consent.

An opinion was filed on the fourteenth of November, affirming the judgment of the lower court.

In the meantime I was directed by resolution of the board, dated Nov. 20, 1890, to take such action in the premises as might be deemed most expedient.

I therefore, on the twenty-third day of November purchased lot 26, block 6, Eisenmenger & Caspel's Lake Park, Ramsey county. The title was examined and found to be in Mr. Eisenmenger and a warranty deed, dated Nov. 29, 1890, was delivered and paid for.

The engineer is now examining the lines for drainage and it is believed this settlement will not make a further controversy with Mr. Eisenmenger.

On the eleventh day of April, 1890, the following resolution was introduced and unanimously adopted:

By P. H. Kelly, April 11, 1890.

Resolved, That the attorney of the board be authorized to complete the purchase of lots 4, 5, 6 and 7, in block 4, and all those parts of lots 9, 10 and 11, in said block 4, lying east of State street, and north of the south line of the alley in said block 4 produced. The purchase of said parts of lots 9, 10 and 11, depending upon the vacation of that part of the north and south alley in said block lying north of the north line of the east and west alley in said block 4 produced west. All being in block 4, in West St. Paul Real Estate and Improvement Syndicate, No. 1, City of St. Paul, Minn.

The property referred to in the resolution had already been purchased by contract and it only remained for me to examine the abstract and see that the lots were conveyed to the city, which order was moved as follows:

WARRANTY DEEDS.

William Center and wife, deed dated April 15, 1890; lot 4, block 4.

Charles L. Schodeen, deed dated April 15, 1890; lot 5, block 4.

Edward K. and Joseph J. Stymat and wife, deed dated April 15, 1890; lots 6 and 7, block 4.

Robert M. Lawson and wife, deed dated April 15, 1890; lot 8, block 4.

Robert M. Lawson and wife, deed dated Sept. 4, 1890; fractional lots 9, 10 and 11, block 4.

These deeds were duly recorded in the office of the register of deeds of Ramsey county and are now on file in this office.

In pursuance of a resolution passed July 22, 1890, I was directed to turn over to W. A. Somers, the engineer of the board, all the books, records, maps, profiles, tools and instruments in my possession belonging to the engineering department of this board, which duty was immediately completed with, since which time I have had no direct connection with the engineering department of the board.

[illegible] proceedings instituted against the property the title of which is in the city of St. Paul, and [illegible] the board of water commissioners.

[illegible] proceedings instituted by the St. Paul Water Company by petition dated St. Paul, July [illegible], 1888, the court, in accordance with said notice, appointed commissioners to ascertain the [illegible] damage to owners of property affected by [illegible] the construction, use or operation [illegible] and said commissioners duly made report of their findings, which report was returned to the court on the [illegible] day of [illegible], 1890, as required by law governing the commissioners.

The commissioners have [illegible] a map of said right of way and filed it in the office of the register of deeds of said Ramsey county, on

the seventh day of July, 1869. These maps represent a right of way extending from Herkimer avenue (now Lafayette avenue) in St. Paul to the outlet of Phalen lake and from the head of Phalen lake to Gervais lake; then from the inlet of Gervais lake, following the line of Gervais creek, to Vadnais lake; thence from the inlet of Vadnais lake, following the line of creek to Pleasant lake. Thence again from Vadnais lake on the north side to Lambert's lake on the south side; thence from the east side of Lambert's lake to White Bear lake.

The award of the commissioners, filed May 4, 1870, covered all the right of way between these points, varying in width from thirty-three to sixty-six feet, which are shown on their maps referred to more definitely. They also assessed damages to all persons affected by diverting the water from the outlet of Phalen lake into their water pipes for the purpose of supplying the city of St. Paul with water, extending from the outlet of Phalen lake and following the line of Phalen creek to the Mississippi river.

After filing the award of the commissioners referred to above, the St. Paul Water Company deposited with the clerk of the court of the county of Ramsey the full amount in money of all the awards made and set forth in said report, and the St. Paul Water Company became possessed of a title in fee of all the rights obtained under said condemnation proceedings.

Subsequent to the filing of the award of the commissioners the St. Paul Water Company obtained deeds along the right of way, as shown on their maps, which deeds are hereunto scheduled as follows:

Town	Range	Section	Description	What for	Width.	Grantor.	Date.	Kind of Deed.
[illegible]	[illegible]	[illegible]	[illegible]	Right of way	[illegible] feet	Charles K. Conway and wife	April 19, 1869	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Right of way	[illegible] feet	Washington M. Shaw and wife	April 17, 1869.	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Right of way	[illegible] feet	Washington M. Shaw and wife	April 17, 1869.	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Right of way	[illegible] feet	Washington M. Shaw and wife	April 17, 1869.	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Land for dam		Sylvia Nelson and wife	May 9, 1872.	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Right of way	66 feet	Arabella W. Dunn and husband	Aug. 27, 1874.	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Right of way	66 feet	Arabella W. Dunn and husband	Aug. 27, 1874.	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Right of way and right to flow lake		Charles D. Gilfillan and wife	June 27, 1877.	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Right to ditch and flow land		Charles D. Gilfillan and wife	June 27, 1877.	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Right to ditch and flow land		Charles D. Gilfillan and wife	Mch. 17, 1879	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	Lay water pipe		St. Paul Plow Works	Nov. 24, 1877.	Warranty.
[illegible]	22	[illegible]	[illegible]	Right of way	66 feet	Mathais Huser and wife	Feb. 24, 1878.	Warranty.
[illegible]	22	[illegible]	[illegible]	To lay water pipe		St. Paul Harvester Works.	Dec. 7, 1877.	Warranty.
[illegible]	22	28		To lay water pipe under R.R. track.		St. Paul & Duluth Railroad Co.	Dec. 18, 1877.	Warranty.
30	22	31		Right to build canal and to maintain dam and flow water in Vadnais lake		A. Wharton, John Farrington, Charles A. Morton and Augustus K. Barnum and their wives	Nov. 18, 1881.	Warranty.
30	22	6						
30	22	31						

Additional condemnation proceedings were had, as follows:

Maps, marked A, B, C and D, were filed in the office of the register of deeds on April 2, 1878, for the purpose of changing the right of way heretofore obtained as referred to above, extending from Seventh street near the corner of Frank street, in the city of St. Paul, running in nearly a direct line to the "Intake Chamber" on the shore of Phalen lake. Also for the purpose of condemning the shores of the south end of Phalen lake running from the intake chamber, referred to above, to the outlet of Phalen lake. Also showing a piece of land 50x100 feet at the outlet of Phalen lake to be taken for the purpose of erecting a dam thereon for the purpose of utilizing Phalen lake as a storage reservoir. Also showing property to be condemned along the north end of Phalen lake for flowage purposes and also following the course of Phalen creek for a distance of nearly two miles, for the purpose of controlling the flowage of the land on the line or course of Phalen creek.

Subsequent to the filing of the map referred to above, deeds were taken for right of way in accordance with said maps from Mathais Huser and wife, the St. Paul Harvester Works, the St. Paul & Duluth R. R. Co. and the St. Paul Plow Works, as scheduled in the foregoing list.

On the twenty-fourth day of April, 1878, a petition was filed, praying the court to appoint commissioners for the purpose of assessing the damages to the persons affected by the taking of the property represented on the maps referred to above. And on the same day commissioners were appointed by the Hon. Orlando Simons to assess the damages in favor of the persons so damaged. On May 14, 1878, the commissioners filed their award. Immediately thereafter the whole amount of the various awards were paid into court, as required by law, and the St. Paul Water Company became possessed of a title in fee of all the property represented on said maps, except the four cases referred to above.

By an act of the legislature of the State of Minnesota approved Feb. 10, 1881, authorizing the city of St. Paul to purchase the franchises and property of the St. Paul Water Company, and creating a board of water commissioners, the St. Paul Water Company, by a warranty deed dated June 1, 1882, conveyed to the city of St. Paul all of the franchises and property of the St. Paul Water Company, and the city of St. Paul became possessed of a title in fee of all the property enumerated in the above list.

In addition to the property conveyed to the city of St. Paul by the St. Paul Water Company, Charles D. Gilfillan and wife, under their agreement with the city of St. Paul, conveyed to the city of St. Paul, by warranty deed dated June 1, 1882, the right to enter upon the lands hereinafter described, doing no unnecessary damage thereto, and to use and occupy the same so far as necessary to maintain, operate or use any works which have been therein or thereon constructed by said St. Paul Water Company and also to construct therein or thereon any works of any description which said city of St. Paul may deem necessary or useful to its water works or in carrying out the purposes of said act of the legislature, and at all times to examine and repair any of such works whether now constructed or which may hereafter be constructed, and also the right to overflow said land and the right to drain said land.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Grantor	Date	Kind of Deed
	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Quitclaim
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife	June 1, 1882	Warranty.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		Charles D. Gilfillan and wife.	June 1, 1882	Warranty.
			Block 8, lot 14	St. Paul Proper		Charles D. Gilfillan and wife.	June 1, 1882	Warranty.

The board of water commissioners, created by the act of the legislature approved Feb. 10, 1881, were organized as a body politic on Aug. 7, 1882.

By section 4 of the act of Feb. 10, 1881, authority was given the board of water commissioners to assume and exercise control over all the property set forth in the lists above recited, after which date, by direction of the board of water commissioners, the property scheduled below was purchased:

Description.	Grantor.	Date.	Kind of Deed.
Vadnais Lake Villas, lot 11	Henry R. Moore, Jr.	Nov. 10, 1882	Warranty.
Vadnais Lake Villas, lot 12			
Vadnais Lake Villas, lot 13			
Vadnais Lake Villas, lot 14			
Vadnais Lake Villas, lot 15			
Vadnais Lake Villas, lot 16			
Vadnais Lake Villas, lot 17			
Vadnais Lake Villas, lot 18			
Vadnais Lake Villas, lot 19			
Vadnais Lake Villas, lot 20			
Vadnais Lake Villas, lot 21			
Vadnais Lake Villas, lot 22			
Vadnais Lake Villas, lot 23			
Vadnais Lake Villas, lot 24	Quitclaim deed of same premises: John Farrington, A. K. Barnum, Alfred Wharton and wives	Nov. 21, 1883	
Vadnais Lake Villas, lot 25			
Vadnais Lake Villas, lot 26			
Vadnais Lake Villas, lot 27			
Vadnais Lake Villas, lot 28			
Vadnais Lake Villas, lot 29			
Vadnais Lake Villas, lot 30			
Vadnais Lake Villas, lot 7	Marion Harrison and wife	June 29, 1883	Warranty.
Vadnais Lake Villas, lot 10	Charles N. Bell	June 29, 1883	Warranty.
Vadnais Lake Villas, lot 9	Edward Corning and wife	July 2, 1883	Warranty.
Vadnais Lake Villas, lot 8	Catherine E. Leslie	July 18, 1883	Warranty.
A piece of land in Terry's addition, 100 feet on Seventh street, running to railroad	Wm. B. Dean and others	Aug. 15, 1883	Warranty.

By authority conferred on the board of water commissioners by section 10 of the act of the legislature of the State of Minnesota creating the board of water commissioners and for other purposes, approved Feb. 10, 1881, the board of water commissioners caused to be made a survey of a line along which it

proposed to extend its said works, extending from the intersection of York with Mississippi street, in the city of St. Paul, thence in a northerly course to Vadnais lake. Also a line running from a point in section 18, township 29, range 22, extending westerly to a point near the centre of section 14, township 29, range 23; thence running southerly to an intersection with Dale street, near the city limits of St. Paul.

And they did, as required by section 10, file maps in the register of deeds' office, showing their line of right of way and land to be taken for reservoirs, pumping stations, etc.

Said maps were filed in serial, numbering from 1 to 8. Numbers 1 to 6 inclusive were filed Jan. 16, 1884, numbers 7 and 8 filed March 13, 1884, and deeds were taken for property represented on said maps, as scheduled on following pages.

Township.	Range.	Section.	Description.	What For.	Width.	Map No.	Grantor.	Date.	Kind of Deed.
30	22	31	S. W. ¼	Conduit line	100 feet	1	S. E. Sanborn, A. P. Monten and wives	Aug. 2, 1883	Warranty.
29	22	6	N. W. ¼	Conduit line	100 feet	2	Sylvan Nadeau and wife	Aug. 16, 1883	Warranty.
29	22	6	S. E. ¼						
29	22	6	S. E. ¼ of N. W. ¼	Conduit line	100 feet	2	Joseph Parlseau and wife	Aug. 16, 1883	Warranty.
29	22	6	S. E. ¼ of S. E. ¼	Conduit line	100 feet	2	Edward Paul	Aug. 3, 1883	Warranty.
29	22	6	S. W. ¼ of N. E. ¼	Conduit line	100 feet	2	Alfred Mingo and wife	Aug. 17, 1883	Warranty.
29	22	6	S. E. ¼	Conduit line	100 feet	2	Canada De Mers and wife	Sept. 5, 1883	Warranty.
29	22	6	S. E. ¼	Conduit line	100 feet	2	Edesta Langevin and others	July 23, 1883	Warranty.
29	22	5	Southwest part of S. W. ¼	Conduit line	100 feet	2	Rt. Rev. Thomas L. Grace, Bishop of St. Paul	Sept. 6, 1883	Warranty.
29	22	7	S. E. ¼	Conduit line	100 feet	3	Wm. Dawson and wife	Sept. 11, 1883	Warranty.
29	22	8	W. ½ of S. W. ¼	Conduit line	100 feet	3	Joseph Goiffon, a priest	Oct. 22, 1883	Warranty.
30	22	30	Lot 8, 10.70 acres				Thomas Holmden and wife	Nov. 29, 1883	Warranty.
29	22	6	N. W. ¼ of N. W. ¼	Conduit line	100 feet	2	Antoine Lannoux and wife	Dec. 26, 1883	Warranty.
29	22	8	N. W. ¼ of S. W. ¼	Conduit line	100 feet	3	Charlotte V. D. Gott and others	Sept. 11, 1883	Warranty.
30	22	31	Vadnais Lake Villa, lot 63	Conduit line	100 feet	1	Edmund Rice, Jr., and wife	Aug. 9, 1884	Warranty.
29	22	18	Middle ⅓ of S. W. ¼	Conduit line	100 feet	4	Jodok Kohler and wife	Dec. 5, 1883	Warranty.
29	22	18	Middle ⅓ of S. W. ¼. 12.67 acres	Reservoir ground and pumping station		4	Jodok Kohler and wife	March 14, 1884	Warranty.
29	22	18	Middle ⅓ of S. W. ¼	Conduit line	50 feet	4	Jodok Kohler and wife	Jan. 5, 1885	Warranty.
30	22	30	Lots 1, 4, 5 and 6, 24 + acres on shore of Vadnais Lake	Flowage			Robert P. Lewis and wife	March 9, 1884	Warranty.
29	23	14	S. W. ¼ of N. E. ¼. 4.34 acres	Reservoir ground		8	Calvin S. Pennell and wife	May 7, 1884	Warranty.
29	23	14	N. W. ¼ of S. E. ¼. 3.46 acres	Reservoir ground		8	Johannes Johnson	May 12, 1884	Warranty.

Township.	Range.	Section.	Description.	What For.	Width.	Map No.	Grantor.	Date.	Kind of Deed.
			Asylum outlots, lot 1	Right of way	66 feet	8	James Trobec	May 3, 1884	Warranty.
29	22	6	S. E. ¼	Conduit line	100 feet	2	Louis Gaginer and wife	Aug. 11, 1883	Warranty.
			Asylum outlots, lot 15	Right of way	66 feet	8	Joseph Fleckenstein	June 10, 1884	Warranty.
			Bass' Garden lots, lots 17 and 18	Right of way	66 feet	5	Peter Rollinger and wife	March 13, 1884	Warranty.
29	23	13	N. W. ¼ of S. E. ¼	Right of way	66 feet	7	Charles Bloomingdale and Isaac Rhine and wives	Aug. 11, 1884	Warranty.
29	22	18	W. ½ of N. E. ¼, E. ½ of N. W. ¼	Conduit line	100 feet	4	Beriah Magoffin, Sr	Dec. 18, 1883	Warranty.
29	23	13	S. ½ of S. E. ¼	Right of way	66 feet	7	Joseph Robert and wife	Aug. 7, 1884	Warranty.
			Bass' Garden lots, lots 7 and 8	Right of way	60 feet	5	Franz Koecheler and wife	March 31, 1884	Warranty.
			Bass' Garden lots, lots 5 and 6	Right of way	60 feet	5	Carl Koecheler and wife	April 2, 1884	Warranty.
			Asylum outlots, lot 12	Right of way	66 feet	8	Edward G. Rogers and wife	May 7, 1884	Warranty.
29	23	13	N. ½ of S. W. ¼	Right of way	60 feet	8	William Louis Kelly, John W. Sheehy	July 1, 1884	Probate.
			Asylum outlots, lots 7, 9 and 11	Right of way	40 feet	8	Catholic Orphan Asylum Ass'n	June 2, 1884	Warranty.
			Asylum outlots, across lot 14	Right of way	66 feet	8			
			Bass' Garden lots, lot 16	Right of way	60 feet	5	Margaretha Heinach and husband	March 13, 1884	Warranty.
			Bass' Garden lots, lots 5 and 6	Right of way	60 feet	5	Jacob Alf and wife	March 13, 1884	Warranty.
			Bass' Garden lots, east half of lot 5	Right of way	60 feet	5	Margaretha Hahn and husband	Feb. 12, 1885	Warranty.
			Asylum outlots, lot 10, 3 acres	Reservoir		8	Frances L. James and husband	May 2, 1884	Warranty.
			Asylum outlots, east 2 acres of lot 10	Right of way	40 feet	8			
			Asylum outlots, lot 16	Right of way	66 feet	8	William Welch and wife	May 2, 1884	Warranty.
29	23	14	S.W. ¼ of S. E. ¼ of N. E. ¼, 4.84 acres	Reservoir		8	James Stinson	May 2, 1884	Warranty.
29	22	18	S. E. corner of W. ½ of N. E. ¼	Conduit line	100 feet	4	James M. Dean and wife	Jan. 17, 1884	Warranty.

.....	.....	.....	Asylum outlots, lot 8	Right of way	40 feet	8	Norman W. Kittson and wife	May 2, 1884	Warranty.
.....	.....	.....	Dawson's outlots, lot 12	Right of way	100 feet	5	William Dawson and wife	Jan. 16, 1884	Warranty.
.....	.....	.....	Hoyt's outlots, lots 12 and 13	Right of way	60 feet	6	Robert McNenomy and wife	Jan. 7, 1884	Warranty.
30	22	31	Lot 4. 14 acres	Reservoir ground.		1	Elias F. Drake and wife	April 13, 1886	Warranty.
30	22	31	N. E. corner lot 4. 1 acre	Reservoir		1	John Farrington and wife	Aug. 6, 1885	Warranty.
30	22	31	N. E. corner lot 4. 1 acre	Reservoir		1	Alfred Wharton and others	June 13, 1885	Warranty.
30	22	31	N. E. corner lot 4. 1 acre	Reservoir		1	Charles A. Morton and wife	June 29, 1885	Warranty.
.....	.....	.....	Hoyt's outlots, lot 20	Right of way	60 feet	6	E. Rice, Jr., and wife	Jan. 7, 1884	Warranty.
29	22	18	S. ½	Right of way	100 feet	4	Louis M. Dion and wife	Dec. 12, 1883	Warranty.
29	22	18	N. ½	Conduit line	100 feet	4	Catherine Hill and husband	Dec. 5, 1883	Warranty.
29	22	18	N. ½. 4.78 acres	Reservoir		7	Catherine Hill	April 24, 1886	Curative.
29	22	18	N. ½ of S. W. ¼	Conduit line	50 feet	7	Catherine Hill	April 24, 1886	Warranty.
.....	.....	.....	Woodland Park addition, block 18	Right to lay pipe		.....	E. J. Hodgson and others	March 5, 1887	Warranty.
29	22	30	N. E. ¼ of N. E. ¼	Right of way	60 feet	6	Edmund Rice, Jr., and wife	Jan. 7, 1884	Warranty.
.....	.....	.....	Union Park, lots 44 and 45	Storage		.....	Maria A. Hornsby and husband	Sept. 27, 1889	Warranty.

On the second day of June, 1884, the board of water commissioners filed their petition in the office of the clerk of the court of Ramsey county, praying the court for the appointment of commissioners to assess the value and damage, if any thereto, of certain lands represented in their petition and in accordance with their maps filed of record in the office of the register of deeds of Ramsey county on Jan. 16 and March 13, 1884, consecutively, and the court did, on June 2, 1884, appoint commissioners as prayed for in said petition, and the commissioners did after due deliberation file their report on the twenty-fifth day of July, 1884, in the office of the clerk of the court.

The board of water commissioners immediately thereafter deposited with the clerk of the court of Ramsey county the full amount in money of all the awards made and set forth in said report, and the city of St. Paul thereafter became vested of a fee in fee of all the lands and rights obtained under said condemnation proceedings. The following persons were awarded damages for the lands taken, as follows:

1. [illegible] for a strip of land [illegible] feet wide, over the east half of the [illegible] section [illegible], township [illegible], range [illegible], according to plat No. 5 of the board of water commissioners' maps.

2. [illegible] for a strip of land [illegible] feet wide, over the west half of the [illegible] section [illegible], township [illegible], range [illegible], according to plat No. 5 [illegible]

3. [illegible] for a strip of land [illegible] feet wide, [illegible] section [illegible], township [illegible], range [illegible], according to plat 7 [illegible]

4. [illegible] in St. Paul, for a strip of land 66 feet [illegible]

[illegible] board of water commissioners of Aug. 4, 1888, the [illegible] of a new line of works, extending [illegible] range [illegible], the present west[illegible] to Bauman lake, in [illegible] range [illegible]. On the twenty-seventh day [illegible] of the board of commissioners the com[illegible] showing land [illegible] William passed by [illegible] shown by the maps [illegible]

[illegible] extending from [illegible] range [illegible] the present [illegible] to Bauman lake, in [illegible] the true and [illegible] the equitative [illegible]

[illegible] required by [illegible] county of Ramsey, [illegible] in the [illegible]

[illegible] were surveyed [illegible] right of way [illegible] the right of way

100 feet wide, across the northeast quarter of the southwest quarter and the northwest quarter of the southeast quarter, of section 31, township 31, of range 22, containing 3.86 acres of land.

By warranty deed dated Sept. 19, 1889, Charles H. Helson and wife conveyed to the city of St. Paul a strip of land 100 feet wide across the southwest quarter of the southeast quarter of section 31, township 31, of range 22, containing 3.44 acres of land, according to said map number one, referred to above.

On the eighth day of May, 1889, Sylvester Kipp and wife conveyed to the city of St. Paul by contract running with the land, the right to lay pipe over the northwest quarter of the northwest quarter of section 12, township 30, of range 23.

By warranty deed dated Oct. 10, 1889, Henry S. Fairchild and wife conveyed to the city of St. Paul a strip of land one hundred feet wide across the southwest quarter of the northwest quarter of section 12, of township 30, of range 23, containing 2.36 acres of land. Also the right to flow the north shore of Charles lake, as shown on said map of right of way, No. 2.

By warranty deed, dated Oct. 12, 1889, Henry Bucher and wife conveyed to the city of St. Paul a strip of land one hundred feet wide over and across the northwest quarter of the northwest quarter of section 1, and the northeast quarter of the northeast quarter of section 2, all in township 30, of range 23, containing 4.72 acres, according to said plat No. 2, referred to above.

Sometime during January or February of 1890, lots 4, 5, 6 and 7, and fractional lots 9, 10 and 11 of block 4, West St. Paul Real Estate and Improvement Syndicate Addition No. 1, were purchased by Judge Hoyt for the board of water commissioners, for a pumping station in West St. Paul, and warranty deeds for the same were delivered as follows:

Charles L. Schofield, deed dated April 18, 1890, for lot 4, block 4.

Edward R. Bryant, Joseph Ogden Bryant and their wives, deed dated April 18, 1890, for lot 7, block 4.

Albert M. Lawton and wife, deed dated April 18, 1890, for lot 5, block 4.

William Jenter and wife, deed dated April 18, 1890, for lot 6, block 4.

Albert M. Lawton and wife, deed dated Sept. 9, 1890, for fractional lots 9, 10 and 11 of block 4.

By warranty deed, dated Nov, 29, 1890, John Fred Eisenmenger and wife conveyed to the city of St. Paul lot 26 of block 6, Eisenmenger & Zaspel's Lake Park. This lot was purchased for the purpose of utilizing the terminal chamber as a waste weir to prevent the flowage of low land in the vicinity, and to avoid suits for damage.

SUMMARY.

On the south shore of Vadnais lake the city owns 50.90 acres of land; at the pumping station, near McCarron's lake, the city owns 17.30 acres; at the high service reservoir ground, the city owns 15.14 acres; total acres, 83.34.

There should be added in addition the following city lots:

Lot 13, block 9, St. Paul proper, upon which the office stands; two lots near the corner of Frank and Seventh streets; two lots in Union Park, and four lots and three fractional lots in West St. Paul.

There should be further added the 34 miles of right of way, varying from 33 to 100 feet in width.

Respectfully submitted,

S. P. FOLSOM, *Attorney.*

ENGINEER'S REPORT.

ST. PAUL, MINN., Dec. 5, 1890.

To the President and Board of Water Commissioners of the City of St. Paul,

GENTLEMEN: In submitting, at this time, a report which is to be a part of the ninth annual report of your honorable board, it is proper to state that my appointment as your engineer was made last June, and that a large portion of my time since then has been devoted to a study of the water system of the city.

The office work done has been the arranging of all maps, profiles and papers, which appeared to properly belong to the engineering department, in a compact and convenient manner, with proper index; and the preparation of a record of standard bench marks (or points of known elevation), to correspond with the standards used by the city in establishing street grades. This was very much needed, as the record in use contained many points which had been destroyed, very few which were known to be accurate, and none that had been proven correct as compared with the official standard of the city. In the preparation of this record, levels were run along all the lines of work and well defined points established as bench marks and carefully tested.

Considerable work has been done on the line constructed last year between Baldwin lake and Charles lake, the ditch has been thoroughly cleaned out; the supports which were left in under road crossings have been removed, and for a distance of about two hundred feet, commencing at station 39, the sides have been raised from eight to twelve inches. The ditch is now carrying a little over 8,000,000 gallons a day and has not yet given us any trouble.

A new boiler sixty inches in diameter, sixteen feet long, was purchased and set up under contract with Kenny Brothers at the Baldwin lake pumping station. This installation of the boiler plant was made in order to avoid the necessity of stopping the pumps during the cleaning or repairing of the boiler.

There was also set up a ten inch centrifugal pump and a seventy-five horse power engine (second hand), to be used as a substitute while changing the arrangement of the suction and discharge pipes in the larger pump. The work of changing these pipes has been completed, and has resulted in increasing the capacity of the pump about ten per cent, but it is not yet up to the required capacity, and has not been accepted.

At Vadnais lake there have been put down five wells, under the Cooke system; that is, wells of the same character as ordinary driven wells, except that in place of using pipe and a bell point and being driven from 20 to 60 feet, the pipe used is 8 inches inside diameter and is driven about 100 feet, and the strainer is 40 or 50 feet long. These wells are on a line parallel with and about 40 feet east of the conduit, commencing about 850 or 750 feet southerly from the gate chamber at Vadnais lake. At about the center of the line and 65 or 70 feet east of the conduit, there was also drilled a well 365 feet deep, which is lined for some 200 feet with a 10 inch pipe, the balance being in the rock. All these wells are connected, and a 6 inch centrifugal pump and portable engine were purchased and set up and has

been drawing from them at the rate of from 2,000,000 to 2,500,000 gallons per day. When first opened, last August, the water in the wells was found to stand 2.7 feet higher than the water in the lake; at this date it appears to have fallen about 2.5 feet. I say appears, because the pumping has not been stopped long enough to make it certain that the water has risen to its normal level. The effect of pumping is to draw down the water from 12 to 14 feet, and when the pump is stopped the water rises for the first 6 or 7 feet quite rapidly, and then gradually slower. The last measurements taken were on November 23d, and two and one-half hours after the pumps had been stopped, when the water in the wells had risen to within 2.8 feet of the original level, and as the upward movement was quite slow during the last half hour, I think it safe to assume that the general level has been reduced, as before stated, about 2.5 feet. In the meantime the water in the lake has risen 1.3 feet, so that a present comparison would show the elevation of the water in the wells to be one foot below the present surface of the lake; while last January the condition was reversed, the water in the lake being 2.7 feet lower than the water in the wells. While this would indicate that the water does not come directly from the lake, which has been claimed, it does not prove that there is no connection between the lake and the wells. Careful measurements will be taken during the winter with the view of determining this question.

Plans and specifications were prepared, and a contract has been awarded for the construction of a pump with a capacity of 6,000,000 gallons a day, to be erected in the pumping station near McCarron's lake.

Notwithstanding the light rainfall of the current year, the present condition of the visible supply of water is very satisfactory, there being impounded in the various lakes immediately connected with the service as reservoirs over 1,000,000,000 gallons of water more than was on hand at this time last year; and taking into consideration the fact that a part of our daily supply is being taken from the wells before referred to, this 1,000,000,000 gallons is equal to two hundred days', or over six months' supply; and in addition to this we are now pumping into these lakes every day more water than is being used. The average daily use of water for the past year has been at the rate of about 8,000,000 gallons, most of which comes into the city through the conduit from Vadnais lake, where a portion is delivered by pumps into the high service reservoir, and another portion discharged immediately into the low service system. In this connection I wish to call your attention to the fact that a low service reservoir to be constructed at the southerly end of the conduit near the McCarron lake pumping station is contemplated by the general plans of the system, and that the rapid increase in the use of water will soon make its construction necessary to provide a supply while the conduit is being cleaned or repaired. When the conduit is closed the low service is entirely dedependent upon the supply from Lake Phalen, the pipes connecting which are not large enough to keep up the pressure, and would fail entirely in the case of any unusual demand.

In closing I desire to thank the officers and employes of the department, and especially the president of the board, for assistance rendered in gathering the information necessary to a proper understanding of the work.

Respectfully submitted,

W. A. SOMERS,
Engineer.

TREASURER'S REPORT.

CITY TREASURER'S OFFICE,
ST. PAUL, MINN., Dec. 1, 1890.

To the Honorable the President and Members of the Board of Water Commissioners of the City of St. Paul.

GENTLEMEN: I have the honor to submit to you the following report of the receipts and disbursements of this office from Dec. 1, 1889, to Dec. 1, 1890.

RECEIPTS.

Balance Dec. 1, 1889				$8,813.73
Dec. 11, 1889,	J. Caulfield, Secretary	$5,000 00		
Dec. 28, "	" "	3,000 00		
Jan. 2, 1890,	" "	3,000 00		
Jan. 10, "	" "	10,000 00		
Jan. 18, "	" "	3,000 00		
Feb. 3, "	" "	3,000 00		
Feb. 4, "	" "	5,000 00		
Feb. 24, "	" "	5,000 00		
Mar. 1, "	" "	2,000 00		
Mar. 14, "	" "	10,000 00		
Mar. 19, "	" "	12,000 00		
Mar. 26, "	Water frontage tax.	4,019 69		
Apr. 12, "	J. Caulfield, Secretary	79,273 83		
Apr. 23, "	" "	5,000 00		
Apr. 25, "	" "	3,000 00		
May 1, "	" "	8,000 00		
May 10, "	" "	25,000 00		
May 22, "	" "	6,000 00		
May 27, "	" "	3,500 00		
June 27, "	" "	6,500 00		
July 9, "	" "	10,000 00		
July 21, "	Water frontage tax	65,311 37		
Aug. 8, "	J. Caulfield, Secretary	10,000 00		
Aug. 28, "	" "	10,000 00		
Sept. 10, "	" "	10,000 00		
Sept. 18, "	" "	10,000 00		
Sept. 27, "	" "	6,000 00		
Oct. 2, "	" "	5,000 00		
Oct. 7, "	" "	10,000 00		
Oct. 10, "	" "	10,000 00		
Oct. 29, "	" "	20,000 00		
Nov. 1, "	" "	6,000 00		
Nov. 7, "	" "	4,000 00		
Nov. 22, "	" "	10,000 00		
Nov. 26, "	" "	5,748 64		
			$391,353 53	
City bonds issued for water work purposes, proceeds of			100,555 55	

OLD WATER COMPANY COUPON ACCOUNT

Amount advanced to pay exchange	306 36	
		$501,022 17

DISBURSEMENTS.

December, 1889	$16,268 69	
January, 1890	15,586 27	
February, "	9,471 08	
March, "	29,030 59	
April, "	89,818 82	
May, "	42,597 40	
June, "	107,658 77	
July, "	54,162 94	
August, "	27,217 74	
September, "	27,579 73	
October, "	48,847 30	
November "	31,026 90	
		$499,266 23
Balance on hand Dec. 1, 1890	$1,456 58	
Amount advanced to pay exchange on Old Water Co. Coupon account	306 36	1,762 94
		$501,029 17

Respectfully submitted,

GEORGE REIS,

City Treasurer.

TENTH ANNUAL REPORT

OF THE

BOARD

OF

WATER COMMISSIONERS

OF THE

CITY OF ST. PAUL.

DECEMBER 1, 1891.

ST. PAUL, MINN.
PIONEER PRESS COMPANY
1891.

(91-P.)

TENTH ANNUAL REPORT

OF THE

BOARD

—OF—

WATER COMMISSIONERS

OF THE

CITY OF ST. PAUL.

DECEMBER 1, 1891.

ST. PAUL, MINN.:
ST. PAUL HERALD PRINT.
1892.

OFFICERS

OF THE

CITY WATER WORKS,

December 1, 1891.

BOARD OF WATER COMMISSIONERS.

J. F. HOYT, President. Term Expires May 22, 1892.

WILLIAM LINDEKE. Term Expires Jan. 1, 1893.

R. B. C. BEMENT. Term Expires January 1, 1893.

THOMAS GRACE. Term Expires January 1, 1894.

P. H. KELLY. Term Expires January 1, 1895.

JOHN CAULFIELD, Secretary.

JOHN B. OVERTON, Superintendent.

L. W. RUNDLETT, City Engineer and Engineer of the Board.

MARTIN FEIST, Chief Engineer and Engineer of McCarron Lake Station.

DANIEL CURRY, Assistant Engineer of McCarron Lake Station.

JOHN MELROSE, Gate Keeper and Engineer of Vadnais Lake Station.

HUGH KANE, Assistant Engineer of Vadnais Lake Station.

JACOB ABRESCH, Engineer of Baldwin Lake Station.

A. A. THOMPSON, Assistant Engineer of Baldwin Lake Station.

TENTH ANNUAL REPORT

OF THE

Board of Water Commissioners

OF THE

CITY OF SAINT PAUL, MINN.

OFFICE OF THE BOARD OF WATER COMMISSIONERS,
ST. PAUL, Dec. 1, 1891.

To the Honorable the Mayor and Common Council of the City of St. Paul,

GENTLEMEN: Herein please find the tenth annual report of the Board of Water Commissioners, being for the year ending Nov. 30, 1891, consisting principally of the reports of its officers to this board; and in place of giving here, as formerly, a summary of the reports, a careful reading and study of the original papers is earnestly requested.

During the year economy has ruled in the laying of mains. Many petitions for these have been denied, and our financial condition and the following of plain business principles ought to be excuse enough, with reasonable men, for the spirit of denial in this respect which the water board will have to practice in the year to come.

We are at the end of the three dryest consecutive years in the history of Minnesota. The average precipitation for these years has been under twenty inches, and this period was preceded by a term of seven years with an average rain fall of but twenty-five inches, while the average for thirty years, including the term last-above noted, was better than twenty-eight inches. A return in the near future of this higher average rain supply will save much solicitude and postpone the expenditure of a large sum of money on our works for many years.

Respectfully submitted,

J. F. HOYT,
P. H. KELLY,
WM. LINDEKE,
THOS. GRACE,
R. B. C. BEMENT.

SECRETARY'S REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS,
ST. PAUL, December 1, 1891.

To the President and Members of the Board of Water Commissioners,

GENTLEMEN: I respectfully submit to your honorable board my tenth annual report, with accompanying statements, showing in detail, under appropriate heads, the financial operations of the water department for the year ending November 30, 1891. Also comparative statements of receipts and disbursements from August 10, 1882 (the time of the purchase of the works by the city), to date.

REVENUE.

Cash on hand Dec. 1, 1891		$8,916 84
General water receipts	$159,561 29	
Miscellaneous water receipts	21,805 82	
Connection (street services)	24,260 02	
Extension	3,016 68	
Shutting off and turning on water (penalties)	216 00	
Repairs	42 33	
Construction (new supply)	6 50	
Interest	399 72	
Frontage tax	88,987 80	
Bills payable	20,000 00	318,296 16
Total		$327,213 00

DISBURSEMENTS.

General maintenance	$38,473 82	
Connections (street services)	22,588 76	
Repairs	3,671 33	
Meters	4,052 52	
Extensions	46,029 69	
Construction (new supply)	38,935 07	
Interest	115,745 81	
Frontage tax (refunded)	265 62	
Bills payable	50,000 00	
Total		$319,762 62
Balance		$7,450 38

The general water receipts, including high and low service and meters were $159,561.29. Deducting $29,273.83, the amount paid by the city for fire purposes during the year 1890 from the receipts of that year, the receipts for 1891 show an increase of $20,647.68 over 1890, of which $9,865.10 was from high service, $1,698.78 from low service, and $9,083.80 from meter consumers.

The miscellaneous water receipts from builders, water carts, hydrant streams, for flushing sewers, etc., filling cisterns, and for sprinkling streets were $21,805.82, an increase of $2,892.05 over 1890.

Extension account is credited with $3,016.68, of which $57.50 was received from sale of 115 loads of rock taken from pipe trenches, $247.87 for scrap iron sold, $23.47 for expenses incurred on hydrants, $410.86 from the City Railway Company, for labor furnished, $211.80 from the C. St. P. M. & O. Ry. Co. for lowering main pipe from Lake Phalen source caused by grading and widening their right of way, $2,041.61 from City of St. Paul for changing hydrants and mains on various streets, which were caused by changing grades of streets after the mains were laid, and $23.57 retained and unclaimed on pay rolls for the year.

Repair account is credited with $42.33 received from contractors for damages to mains while constructing sewers.

Construction account is credited with $6.50 received from the engineer of pumping station for sale of oil barrels and scrap iron.

Interest account is credited with $399.72, being accrued interest on estimates for water for street sprinkling up to the time of sale of same, and from other sources.

INTEREST, REPAIRS, EXTENSIONS, GENERAL MAINTENANCE AND OTHER ACCOUNTS.

One hundred and fifteen thousand seven hundred and forty-five dollars and eighty-one cents has been paid on account of interest on bonds and loans, $3,671.33 for repairs of mains, hydrants, and valves, $38,473.82 on account of general maintenance, of which $17,818.16 was for maintaining the three (3) pumping stations, gate house and reservoir, $6,147.16 of which was for salaries, $10,782.24 for fuel, and $888.76 for machine oil, waste, kerosene oil, and repairs and supplies for machinery, leaving a balance of $20,655.66 of salaries for all officers, employees, office expenses, fuel and all other expenses necessary for maintaining the works.

Four thousand fifty-two dollars and fifty-two cents was for meters, and labor connected with the same.

Twenty-two thousand five hundred eighty-eight dollars and seventy-six cents was paid for labor, lead pipe, brass goods, tools and stop cock boxes for street services.

Forty-six thousand twenty-nine dollars and sixty-nine cents was paid on account of city extensions, of which $15,396.59 was for cast iron pipe and special castings, $24,256.36 for labor laying same, $2,280.00 for fire hydrants, $1,716.18 for lead and hemp packing and $2,380.56 for tools, blacksmithing, lumber and other supplies.

Thirty-eight thousand nine hundred thirty-five dollars and seven cents was paid on account of construction, of which $2,062.19 was on account of the high service reservoir, $4,208.68 on account of engineering and right of way, $1.753.78 for lumber and material, $1,508.00 balance due MrArthur Bros., on the high service reservoir, $2,775.00 balance due McArthur Bros. on contract for canal and pumping house at Baldwin Lake, $6,043.81 balance due Deane Pump Co. for pump at Baldwin Lake, $16,000 on account of new pump being constructed at McCarron Lake station by the E. P. Allis Co., and $4,583.62 for labor and supplies on canals, lakes, pumping stations, &c.

All work in laying water mains and putting in service pipes has been done by days work as usual. The pay rolls of all officers and employees for the year amounted to $70,635.15, and the average monthly employees has been 139.

CONTRACTS.

Contracts have been let during the year amounting to $39,161.59, of which $31,575.10 has been paid, leaving a balance of $7,586.49, which will be paid when labor is performed and material delivered.

On December 1st, 1890, there was due on various contracts not then adjusted the sum of $42,880.93, on which has been paid $26,880.93, leaving a balance of $16,000.00 due the E. P. Allis Company of Milwaukee, payable when the new pump is completed and accepted.

BONDED DEBT.

No bonds were issued during the past year. The present bonded debt is $2,460,000, the annual interest on which is $114,200, payable out of the revenue of the works.

It is gratifying to be able to report that, in addition to paying for the maintenance, repairs, extensions, construction and interest on the works for the year 1891, the revenue has been sufficient to pay $26,880.93 on contracts, and $30,000 of a floating debt contracted for before December 1, 1890.

FRONTAGE TAX.

There has been collected during the year by the county treasurer $88,-987.80 on account of frontage tax, of which $165.12 was for the years 1884-5-6-7; $197.81 for the year 1888; $6,256.91 for the year 1889, and $82,-367.96 for 1890, leaving a balance due of $23,698.16, of which $2,-260.58 is for years 1884-5-6-7; $1,256.22 for 1888; $2,868.36 for 1889 and $17,313.00 for 1890.

The frontage tax assessment for 1891 has been made and is now in the hands of the county treasurer for collection, amounting to $117 947.95.

METERS.

There are now in use 580 meters, an increase of 140 over last year, and the increase in receipts from this source has been $9,083.80.

SERVICES.

During the year 1,075 applications have been made for service connections, of which 264 were on low or gravity service and 811 on high service, a decrease of 332 over year 1890.

Total number of applications to date is 11,533, of which 5,320 are on low and 6,212 on high service.

There were 2,012 applications, and all on low service, when the city purchased the works in August, 1882.

THE FOLLOWING TABLE SHOWS THE NUMBER OF APPLICATIONS MADE FOR WATER SERVICES ANNUALLY FROM 1869 TO DATE.

Year.	High Servic.	Low Service.	Total.
1869	.....	34	.....
1870	.....	321	.....
1871	.....	250	.....
1872	.....	164	.....
1873	.....	131	.....
1874	.....	153	.....
1875	.....	95	.....
1876	.....	85	.....
1877	.....	67	.....
1878	.....	50	.....
1879	.....	180	.....
1880	.....	167	.....
1881	.....	164	.....
1882	.....	264	.....
1883	.....	301	2,426
1884	164	336	500
1885	644	365	1,009
1886	639	369	1,008
1887	747	325	1,072
1888	812	406	1,218
1889	1,327	491	1,818
1890	1,071	336	1,407
1891	811	264	1,075
Totals	6,212	5,321	11,533

PLUMBING.

Thirty-four plumbers were granted licenses during the year; 1,991 permits were issued to them to do work in connection with the introduction and extension of water services, as against 2,182 in 1890, 2,424 in 1889, 1,707 in 1888, 1,610 in 1887, 1,497 in 1886, 1,454 in 1885 and 718 in 1884.

In addition to inspecting and examining all the work done by these plumbers, a general inspection of all services on both high and low service has been made, and rates adjusted according to the last inspection. There has also been 1,017 special inspections, of which 435 were on low service and 582 on high service.

PUMPING PLANTS.

EXPENSE MAINTAINING THE THREE PUMPING STATIONS.

Stations.	Salaries.	Fuel.	Machine Oil and Waste.	Repairs.	Kerosene Oil.	Total.
McCarron Lake	$3,540 00	$4,702 12	$213 86	$230 66	$38 50	$8,725 14
Baldwin Lake	1,507 16	4,998 44	51 98	77 39	22 14	6,657 11
Vadnais Lake and Reservoir	1,100 00	1,081 68	50 75	197 12	6 36	2,435 91
Total	$6,147 16	$10,782 24	$316 59	$505 17	$67 00	$17,818 16

Respectfully Submitted,

JOHN CAULFIELD, Secretary.

TRIAL BALANCE SHEET, DECEMBER 1, 1891.

Account.	Debit.	Credit.
St. Paul water works (original purchase)	$510,000.00	.....
Bond account	.....	$2,460,000.00
General water receipts	.....	1,153,003.15
Miscellaneous water receipts	.....	176,116.34
Connection account (street service)	.....	17,794.81
Extension "	1,596,392.61	.....
General maintenance account	204,566.84	.....
Repair "	35,222.73	.....
Meter "	21,841.46	.....
Construction "	1,046,148.65	.....
Interest "	710,298.16	.....
George Reis, city treasurer	5,341.17	.....
Shutting off and turning on water	.....	1,212.00
Frontage tax	.....	323,799.54
Cash on hand	2,109.21	.....
Total	$4,131,925.84	$4,131,925.84

RECEIPTS AND DISBURSEMENTS FROM NOV. 30, 1890, TO NOV. 30, 1891.

RECEIPTS.			
Balance December 1, 1890			$8,916.84
General water receipts, high service	$55,662.84		
" " " low service	51,788.39		
" " " meters	52,110.06		
		$159,561.29	
Miscellaneous receipts, builders	3,520.31		
" " " water carts	153.00		
" " " flushing sewers and hydrant streams	3,276.34		
" " " filling cisterns	1,188.14		
" " " sprinkling streets	13,668.03		
		21,805.82	
Connections—service		24,260.02	
Extension		3,016.68	
Shutting off and turning on water (penalties)		216.00	
Repair		42.33	
Bills payable		20,000.00	
Construction		6.50	
Interest		399.72	
Frontage tax		88,987.80	
			318,296.16
Total receipts			$327,213.00
DISBURSEMENTS.			
General Maintenance—			
Salaries	$18,560.44		
Stationery and printing	918.82		
Miscellaneous	477.17		
Labor	5,636.28		
Material and fuel	12,202.91		
Feed	477.84		
Repairs	191.36		
		38,473.82	
Connections—			
Labor	$12,602.08		
Pipe	6,445.61		
Brass goods and stop boxes	3,064.10		
Tools and miscellaneous	386.97		
		22,588.76	
Repairs—			
Hydrants. Labor	$2,974.80		
Hydrants. Material	50.48		
Valves. Labor	30.00		
Valves. Material			
Mains. Labor	102.75		
Mains. Material	513.30		
		3,671.33	
Meters—			
Labor	$1,620.71		
Freight and meters	2,431.81		
		4,052.52	
Extensions—			
Pipe and special castings	$15,396.59		
Labor	24,256.36		
Tools and repairs of same	720.80		
Advertising	7.92		
Fire hydrants	2,280.00		
Valves	232.75		
Lead and hemp packing	1,716.18		
Lumber and material	1,108.01		
Miscellaneous and building account	311.08		
		46,029.69	
Construction (new supply)—			
Labor	$30,491.06		
Tools and repairs of same	23.24		
Lumber and material	1,753.78		
Engineering and right of way	4,208.68		
Miscellaneous and building account	396.12		
Reservoir	2,062.19		
		38,935.07	
Interest		115,745.81	
Refunded frontage tax		265.62	
Bills payable		50,000.00	
Total disbursements			319,762.62
Balance			$7,450.38

RECEIPTS AND DISBURSEMENTS FROM AUGUST 10, 1882, TO NOV. 30, 1891.

BALANCE.			
General water receipts, high service	$211,448.80		
" " low service	633,144.11		
" " meters	318,410.24		
		$1,153,003.15	
Miscellaneous receipts, builders	30,698.72		
" " water carts	3,798.13		
" " flushing sewers	7,921.12		
" " filling c'str'ns & hy't stm's	17,576.11		
" " sprinkling streets	116,134.26		
		$176,116.34	
Connections—services		220,761.18	
Extension		26,328.78	
Shutting off and turning on water (penalties)		1,212.00	
Repair		3,174.43	
Interest		62,237.65	
Frontage tax		324,500.18	
Bond		2,110,000.00	
Construction		1,508.33	
Bills payable		618,000.00	
Total receipts			$4,696,942.04
DISBURSEMENTS.			
General Maintenance—			
Salaries	$118,986.86		
Stationery and printing	7,288.77		
Miscellaneous	3,262.07		
Labor	26,083.45		
Material and fuel	43,872.36		
Stable			
Feed	83,239.62		
Repairs	1,772.46		
		$304,540.39	
Connections—			
Labor	$108,813.22		
Pipe	57,936.21		
Brass goods and stop boxes	20,767.17		
Tools and Miscellaneous	5,449.02		
		$202,965.62	
Repairs—			
Hydrants { Labor	$22,361.52		
Hydrants { Material	1,184.47		
Valves { Labor	247.10		
Valves { Material	216.65		
Mains { Labor	12,622.27		
Mains { Material	1,902.60		
		$38,536.61	
Meters—			
Labor	96,497.60		
Freight and meters	15,215.46		
		$21,712.06	
Extension—			
Pipe and special castings	$861,746.04		
Labor	506,091.64		
Tools and repairs of same	16,195.43		
Advertising	258.12		
Fire hydrant	81,724.95		
Valves	66,322.21		
Lead and hemp packing	56,354.94		
Lumber and material	16,959.45		
Miscellaneous building account	17,268.18		
		$1,622,960.96	
Construction—New Supply—			
Pipe and special castings	$174,985.36		
Labor	507,110.06		
Tools and repair of same	4,945.31		
Lumber and material	82,774.80		
Freight	9,374.01		
Engineering and right of way	104,488.49		
Miscellaneous and building account	16,642.18		
Reservoir	147,124.14		
		$1,047,444.57	
Interest			
Refunded frontage tax		$772,690.81	
Bills payable		700.64	
Bond account		618,000.00	
		180,000.00	
Total disbursements			$4,699,491.06
Balance			$7,450.98

STATEMENT SHOWING AMOUNT PAID THE CITY TREASURER AND WARRANTS DRAWN AGAINST SAME FROM DEC. 1, 1890, TO DEC. 1, 1891.

1890.				
Dec. 1....	Balance in treasury as per last report.			$1,762.94
Dec. 1....	Cash	$8,000.00		
Dec. 6....	Cash	1,500.00		
Dec. 9....	Cash	2,000.00		
Dec. 12....	Cash	1,500,00		
Dec. 17....	Cash	1,000.00		
Dec. 29....	Cash	2,000.00		
1891.			$16,000.00	
Jan. 2....	Cash	$5,000.00		
Jan. 5....	Cash	1,000.00		
Jan. 7....	Cash	10,000.00		
Jan. 12....	Cash	2,000.00		
Jan. 17....	Cash	2,000.00		
Jan. 26....	Cash	3,000.00		
			$23,000.00	
Feb. 2....	Cash	$4,000.00		
Feb. 7....	Cash	3,000.00		
Feb. 24....	Cash	7,000.00		
Feb. 27....	Cash	2,500.00		
			$16,500.00	
March 2..	Cash	$2,000.00		
March 6..	Cash	6,000.00		
March 10..	Cash	4,000.00		
March 23..	Cash from County Treasurer on account frontage tax	4,889.46		
March 25..	Cash	14,000.00		
March 28..	Cash	10,000.00		
			$40,889,46	
April 9...	Cash	$2,500.00		
April 27...	Cash	4,000.00		
April 29...	Cash	2,500.00		
			$9,000.00	
May 1.....	Cash	$2,000.00		
May 2.....	Cash	1,000.00		
May 9.....	Cash	2,500.09		
May 27.....	Cash	2,500.00		
May 29.....	Cash	10,000.00		
			$18,000.00	
June 1....	Cash	$2,000.00		
June 6....	Cash	3,500.00		
June 24....	Cash from County Treasurer on account of frontage tax	60,000.00		
June 25....	Cash	3,000.00		
			$68,500.00	
July 1....	Cash	$2,000.00		
July 8....	Cash	10,000.00		
July 15....	Cash	10,000.00		
July 20....	Cash fro " County Treasurer on account of frontage tax	19,810.50		
			$41,810.50	
Aug. 24....	Cash	$10,000.00		
Sept. 1....	Cash	2,000.00		
Sept. 9....	Cash	10,000.00		
Sept. 23....	Cash	22,000.00		
			$34,000.00	
Oct. 1....	Cash	$1,000.00		
Oct. 7....	Cash	11,000.00		
Oct. 8....	Cash	10,000.00		
Oct. 29....	Cash	7,500 00		
			$29,500.00	
Nov. 1....	Cash	$1,000.00		
Nov. 9....	Cash	5,000.00		
Nov. 10....	Cash from County Treasurer on account of frontage tax	4,287.84		
Nov. 14....	Cash	3,000.00		
Nov. 27....	Cash	2,853.05		
			$16,140.89	
				$323,340.85
	Total			$325,103.79

WARRANTS DRAWN ON CITY TREASURER

Date.			
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]			[illegible]
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
[illegible]	Warrant No. [illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible] inclusive	[illegible]	
[illegible]	Warrant No. [illegible]	[illegible]	
			[illegible]
			[illegible]
	[illegible]		[illegible]

CONTRACTS MADE BY THE BOARD OF WATER COMMISSIONERS FROM DECEMBER 1, 1890, TO DECEMBER 1, 1891.

Date of Contract.	With Whom and for What Purpose.	Amount Contract.	Amount Paid.	Amount Due.
1891.				
Jan. 30	Rogers & Ordway, St. Paul, brass goods...	$1,043.97	$1,043.97	
Feb. 5	Rogers & Ordway, St. Paul, iron stop cock boxes	1,850.00	1,850.00	
March 25	Rogers & Ordway, St. Paul, lead pipe and block tin	1,477.57	1,477.57	
April 10	Kenny Bros., St. Paul, 2 boilers	1,005.00	1,005.00	
May 4	J. P. Gribben Lumber Co., St. Paul, lumber	453.94	453.94	
May 11	E. H. Morse, St. Paul, drayage	313.46	313.46	
May 11	N. W. Shot & Lead Works, St. Paul, lead pipe	1,803.96	1,803.96	
May 11	R. D. Wood & Co., Phila., Pa., fire hydrants	2,280.00	2,280.00	
May 12	Howard-Harrison Iron Co., St. Louis, Mo. cast iron pipe	15,233.82	15,233.82	
June 10	N.W. Shot & Lead Works, St. Paul, pig lead	1,075.75	1,075.75	
July 22	Dale & Bumgardner, St. Paul, grading roadway Vadnais lake	1,198.60	1,198.60	
Aug. 10	N. W. Shot & Lead Works, St. Paul, lead pipe	1,901.52	1,901.52	
Aug. 11	N. W. Fuel Co. St. Paul, coal and wood...	7,512.50	1,937.51	$5,574.99
Oct. 22	J. F. McCarthy, Minneap., artesian well..	2,011.50		2,011.50
		$39,161.59	$31,575.10	$7,586.49

CONTRACTS MADE PREVIOUS TO DEC. 1, 1890, AND FOR WHICH FINAL SETTLEMENT WAS NOT MADE AT TIME OF LAST ANNUAL REPORT.

Date of Contract.	With Whom and for What Purpose.	Amount Due Dec. 1890.	Amount Paid.	Amount Due.
1887.				
Dec. 5	McArthur Bros., St. Paul, balance due on high service reservoir	1,350.45	$1,350.45	
1889.				
Aug. 24	Dean Steam Pump Co., Holyoke, Mass., balance due on pump and boiler	6,000.00	6,000.00	
Sept. 16	McArthur Bros., St. Paul, balance due on canal pump house	3,530.48	3,530.48	
1890.				
Oct. 16	The E. P. Allis Co., Milwaukee, 6 million gallon pump	32,000.00	16,000.00	$16,000.00
		$42,880.93	$26,880.93	$16,000.00

BOND ACCOUNT DECEMBER 1, 1891.

Date of Legislative Act Authorizing Issue of Bonds.	Am't of Bonds Authorized.	Date of Bonds Issued.	When Due.	Am't of Bonds Issued.	Rate. Per Cent.	Interest Payable. Dec. 1.	Jan. 2.	Feb. 1.	M'ch 2.	Apr'l 1.	May 2.	June 1.	July 2.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 2.	Total Annual Interest.
Feb. 10, '81..	$600,000	June 1, '82..	30 years ..	$350,000	4	$7,000	.....	.....	.....	.....	.....	$7,000	.....	.....	.....	.....	.....	$14,000
Jan. 26, '83..	500,000	Aug. 1, '83..	30 years...	150,000	5	.....	.....	$3,750	.....	.....	.....	.....	.....	$3,750	.....	.....	.....	7,500
Feb. 21, '85..	800,000	April 1, '84..	25 & 30 yrs.	600,000	5	.....	.....	.....	.....	$15,000	.....	.....	.....	.....	.....	$15,000	.....	30,000
Jan. 31, '87..	200,000	April 1, '85..	30 years...	400,000	5	.....	.....	.....	.....	10,000	.....	.....	.....	.....	.....	10,000	.....	20,000
Jan. 31, '87..	160,000	May 2, '87...	30 years...	200,000	4½	.....	.....	.....	.....	.....	$4,500	.....	.....	.....	.....	.....	$4,500	9,000
March 29, '89.	300,000	March 1, '88.	30 years...	300,000	4½	.....	.....	.....	$6,750	.....	.....	.....	.....	.....	$6,750	.....	.....	13,500
		Jan. 1, '89 ..	30 years...	100,000	4½	.....	$2,250	.....	.....	.....	.....	.....	$2,250	.....	.....	.....	.....	4,500
		Jan. 2, '89...	30 years...	160 000	4½	.....	3,600	.....	.....	.....	.....	.....	3,600	.....	.....	.....	.....	7,200
		May 1, '89...	30 years...	100,000	4½	.....	.....	.....	.....	.....	2,250	.....	.....	.....	.....	.....	2,250	4,500
		May 1, '90....	30 years...	100.000	4	.....	.....	.....	.....	.....	2,000	.....	.....	.....	.....	.....	2,000	4,000
	$2,560,000			$2,460,000		$7.000	$5.850	$3.750	$6.750	$25,000	$8,750	$7,000	$5,850	$3,750	$6,750	$25,000	$8.750	$114.200

Constr		
Labor and Contracts.	Tools and Repair of Same.	Lu Ma
$288.00	$1.70	
93.25	2.55	
2,815.50	1.00	
40.50	.....	.....
6.00	.....	.....
.....	.....	.....
509.75	.....	
7,090.86	3.15	
1,131.12	.....	
1,308.58	11.04	
16,864.15	3.80	
338.35	.....	
$30,491.06	$23.24	$1,7
.....	.....	.....
$36,923.79	$2,230.91	$23.5
341,918.22	1,966.68	41,1
30,246.40	313.22	2,3
13,748.15	62.55	51
24,581.76	143.34	52
1,432.44	3.25	39
17,763.04	21.88	1,06
10,005.20	180.24	11,41
30,491.06	23.24	1,75
$507,110.06	$4,945.31	$82,77

BOND ACCOUNT DECEMBER 1, 1891.

Date of Legislative Act Authorizing Issue of Bonds.	Am't of Bonds Authorized.	Date of Bonds Issued.	When Due.	Am't of Bonds Issued.	Rate. Per Cent.	Interest Payable. Dec. 1.	Jan. 2.	Feb. 1.	M'ch 2.	Apr'l 1.	May 2.	June 1.	July 2.	Aug. 1.	Sept. 1.	Oct. 1.	Nov. 2.	Total Annual Interest.
Feb. 10, '81..	$600,000	June 1, '82..	30 years ..	$350,000	4	$7,000	.....	.....	.....	.....	.....	$7,000	.....	.....	.....	.....	.....	$14,000
Jan. 26, '83..	500,000	Aug. 1, '83..	30 years...	150,000	5	.....	.....	$3,750	.....	.....	.....	.....	.....	$3,750	.....	.....	.....	7,500
Feb. 21, '85..	800,000	April 1, '84..	25 & 30 yrs.	600,000	5	.....	.....	.....	.....	$15,000	.....	.....	.....	.....	.....	$15,000	.....	30,000
Jan. 31, '87..	200,000	April 1, '85..	30 years...	400,000	5	.....	.....	.....	.....	10,000	.....	.....	.....	.....	.....	10,000	.....	20,000
Jan. 31, '87..	160,000	May 2, '87...	30 years...	200,000	4½	.....	.....	.....	.....	.....	$4,500	.....	.....	.....	.....	.....	$4,500	9,000
March 29, '89.	300,000	March 1, '88.	30 years...	300,000	4½	.....	.....	.....	$6,750	.....	.....	.....	.....	.....	$6,750	.....	.....	13,500
		Jan. 1, '89 ..	30 years...	100,000	4½	.....	$2,250	.....	.....	.....	.....	.....	$2,250	.....	.....	.....	.....	4,500
		Jan. 2, '89...	30 years...	160 000	4½	.....	3,600	.....	.....	.....	.....	.....	3,600	.....	.....	.....	.....	7,200
		May 1, '89...	30 years...	100,000	4½	.....	.....	.....	.....	.....	2,250	.....	.....	.....	.....	.....	2,250	4,500
		May 1, '90....	30 years...	100.000	4	.....	.....	.....	.....	.....	2,000	.....	.....	.....	.....	.....	2,000	4,000
	$2,560,000			$2,460,000		$7,000	$5,850	$3,750	$6,750	$25,000	$8,750	$7,000	$5,850	$3,750	$6,750	$25,000	$8,750	$114,200

Constr		
Labor and Contracts.	Tools and Repair of Same.	Lu Ma
$288.00	$1.70	$
93.25	2.55	
2,815.50	1.00	
40.50	.....	.....
6.00	.....	.....
.....	.....	.....
509.75	.....	
7,090.86	3.15	
1,181.12	.....	
1,308.58	11.04	
16,864.15	3.80	
338.35	.....	2
$30,491.06	$23.24	$1,7

.....	.....	.....
$36,023.79	$2,230.91	$23,55
341,918.22	1,966.68	41,16
30,246.40	313.22	2,39
13,748.15	62.55	51
24,581.76	143.34	52
1,432.44	3.25	39
17,763.04	21.88	1,06
10,005.20	180.24	11,41
30,491.06	23.24	1,75
$507,110.06	$4,945.31	$82,774

1, INC

pairs.
$23.35
.....
.....
.....
.....
.....
.....
.....
.....
19.98
.....
$42.33

891,

$123.39
833.73
46.06
1,638.83
46.20
62.58
246.05
61.15
74.11
42.33
3,174.43

1, INCLUSIVE.

pairs.	Extensions.	Construction (New Supply).	Bills Payable.	Bonds.	Interest.	Frontage Tax.	Total Receipts.
$22.35	$572.00	.....	.....	.....	.....	.....	$13,900.40
.....	43.48	.....	.....	.....	.....	.....	24,957.98
.....	6.00	.....	.....	.....	.....	.....	11,368.99
.....	22.40	.....	$10,000.00	.....	.....	$4,889.46	40,043.63
.....	514.61	$6.50	.....	.....	.....	.....	10,143.19
.....	1.50	.....	10,000.00	.....	.....	.....	19,608.94
.....	1.00	.....	.....	.....	.....	$60,000.00	70,433.62
.....	47.47	.....	.....	.....	.....	19,810.50	49,077.49
.....	464.50	.....	.....	.....	.....	.....	14,914.57
.....	45.85	.....	.....	.....	.....	.....	31,082.39
19.98	.....	.....	.....	.....	$179.34	.....	21,029.37
.....	1,297.87	.....	.....	.....	220.38	4,287.84	11,735.59
$42.33	$3,016.68	$6.50	$20,000.00	.....	$399.72	$88,987.80	$318,296.16

891, INCLUSIVE.

$123.39	$65.59	.....	$17,000.00	.....	.....	.....	$27,541.75
833.73	5,886.71	$403.15	111,000.00	$150,000.00	.....	.....	352,902.20
46.06	1,236.47	213.18	165,000.00	600,000.00	$19,244.39	.....	893,935.82
1,638.83	896.71	30.90	50,000.00	400,000.00	1,666.67	$12,269.90	604,654.26
46.20	1,174.16	69.90	55,000.00	.....	.....	19,538.26	229,992.06
62.58	2,782.43	122.50	95,000.00	200,000.00	2,455.00	32,495.91	527,452.42
246.05	5,025.08	150.29	.....	300,000.00	24,815.22	43,062.60	558,083.20
61.15	3,929.72	502.91	.....	360,000.00	13,201.10	55,066.01	685,021.19
74.11	2,315.23	.....	105,000.00	100,000.00	555.55	73,079.70	499,062.98
42.33	3,016.68	6.50	20,000.00	.....	399.72	88,987.80	318,296.16
3,174.43	$26,328.78	$1,508.33	$618,000.00	$2,110,000.00	$62,337.65	$324,500.18	$4,696,942.04

STATEMENT SHOWING THE AMOUNT DUE THE BOARD OF WATER COMMISSIONERS ON DECEMBER 1, 1891.

From City of St. Paul—		
Certificate of indebtedness, drawing 4 per cent interest, for water for fire purposes for eighteen months to June 1, 1891..	$93,615.13	
Water for fire purposes for six months ending Dec. 1, 1891.....	28,048.06	
Premiums received and retained by the city on the $160,000 of bonds issued in January, 1889, to redeem the bonds of the old St. Paul Water Company, of like amount, assumed by the city at the time of purchase of the works.....	5,393.77	
Repairing main on Lafayette avenue, caused by sewer contractor.....	12.56	
Repairing gate box on East Seventh street, caused by paving contractor.....	5.25	
Repairing main on Westminster street, caused by the sewer contractor.....	1.75	
Repairing main on Pearl street caused by settling of service sewer.....	20.21	
Repairing Main on Summit avenue at Selby, caused by sewer contractor.....	8.00	
Balance due for repairing main in Becker place, caused by sewer contractor.....	10.00	
Relaying of water main on Fairview, between Valley and Mt. Airy, caused by change of grade.....	134.25	
Relaying water main on Mt. Airy, between Warren and Fairview, caused by change of grade.....	248.12	
Relaying water main on East Sixth street, between Maria and Hoffman, caused by change of grade.....	399.75	
Relaying water main on East Sixth street, at Kittson, caused by change of grade.....	12.00	
Relaying water main on East Sixth street, between Broadway and Olive, caused by change of grade.....	674.37	$128,583.24
Repairing water mains broken by sewer contractors, claims filed with city comptroller.....		87.96
Balance frontage tax assessment for 1884, 1885, 1886, 1887.....	$2,260.58	
Balance frontage tax assessment for 1888.....	1,256.22	
Balance frontage tax assessment for 1889.....	2,868.36	
Balance frontage tax assessment for 1890.....	17,313.00	
Balance frontage tax assessment for 1891.....	117,947.95	
		141,646.11
From Builders.....	300.00	
From street sprinkling for 1890, secured in city treasury.....	2,552.45	
From street sprinkling for 1891, secured in city treasury.....	841.56	
From service connections.....	1,500.00	
		5,194.01
Total.....		$275,511.32

LIST OF VOUCHERS PAID FROM DEC [illegible] TO DEC [illegible]

DECEMBER, [illegible]

No. of Voucher	Name	Claim	Amount
[illegible]	John [illegible], secretary	Pay roll for November, [illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	A. R. [illegible]	[illegible]	[illegible]
[illegible]	John Hughes	[illegible]	[illegible]
[illegible]	[illegible] Bros. & [illegible]	[illegible]	[illegible]
[illegible]	St. Paul Hardware [illegible]	[illegible]	[illegible]
[illegible]	Frank [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	John [illegible] & [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
	Total		[illegible]

LIST OF VOUCHERS—Continued.

JANUARY 1891.

No. of Voucher	Name.	Claim.	Amount.
4688	John Caulfield, secretary	Pay roll for December, 1890	$4,784.04
4689	George Reis, city treasurer	Interest due December 1, 1890	7,000.00
4690	W. P. Jones, for C. B. Deacon	Wood	21.75
4691	John Miller	Wood	47.25
4692	Albert Rehbein	Wood	52.77
4693	Andrew Hanson	Wood	36.75
4694	Rudolph Miller	Wood	10.50
4695	J. T. Elwell	Wood	33.12
4696	J. H. Hughes	Labor	44.00
4697	Eric Nystrom	Supplies, etc	3.30
4698	James Gilfillan	Rent for storage lot	12.50
4699	Jilson & Sowden	Engine counter	18.00
4700	J. S. Burris	Eleven thousand brick	88.00
4701	Geo. H. Watson & Bro	Insurance	15.00
4702	John Martin Lumber Co	Lumber	15.64
4703	City of St. Paul	Repaving	318.24
4704	George Reis, city treasurer	Interest	5,850.00
4705	C. Allison	Lumber, etc	42.10
4706	The Globe Printing Co	Advertising	5.50
4707	The Dispatch Printing Co	Advertising	5.00
4708	Pioneer Press Co	Advertising and books	25.00
4709	M. J. Bell, register of deeds	Recording deed	1.00
4710	Die Volkszeitung	Advertising	2.00
4711	Boeringer & Son	Supplies engineering dept	.90
4712	Pioneer Press Co	Subscription	4.00
4713	N. W. Telephone Co	Pig lead	44.61
4714	W. E. Magraw	Subscription to "Globe"	2.55
4715	John Martin Lumber Co	Lumber	24.20
4716	B. C. Baldwin	Copying	3.00
4717	Scribner-Libby Co	Repairs, etc	3.65
4718	John Griffin	Painting	35.00
4719	J. T. Elwell	Wood	50.46
4720	H. K. Wollan	Wood	24.00
4721	Brown, Treacy & Co	Stationery	59.65
4722	Henry R. Worthington	Meters	219.31
4723	Robert Seeger	Gasoline	.60
4724	R. C. Clark	Inspecting boilers	9.00
4725	H. P. Rugg & Co	Bibs couplings, etc	57.84
4726	St. Paul Brass Works	Repairs	1.25
4727	John Bell & Sons	Cement	10.00
4728	John Dowlan & Son	Wood	25.00
4729	P. N. Lindquist	Horseshoeing	10.00
4730	St. Paul Rubber Co	Rubber Boots	28.62
4731	Rogers & Ordway	Galvanized pipe, etc	19.54
4732	St. Paul Foundry Co	Manhole covers, etc	45.42
4733	J. G. Duggan	Blacksmithing	24.25
4734	C. Collins	Blacksmithing	32.35
4735	Farwell, Ozmun, Kirk & Co	Powder, fuse, etc	47.51
4736	Chas. Friend & Son	Leather rivets, etc	4.38
4737	P. H. Kelly Mercantile Co	Oil	12.48
4738	E. McNamee	Feed	7.68
4739	A. Decker & Co	Oil Tank	7.00
4740	Geo. R. Morton	Gates, etc	83.34
4741	Clerk of District Court	Copying	1.25
4742	Robinson & Cary Co	Hose gauge, etc	30.31
4743	Shadle & Acker Coal Co	Estimate No. 5, coal	357.95
4744	A. C. Mossbrugger	Hauling coal	56.60
4745	John Caulfield, secretary	Cash advanced	74.62
4746	Michael Lynch	Oats	31.06
4747	H. K. Wallan	Wood	15.75
4748	Wilson & Rogers, for Young & Lightner	Claim for damages	500.00
4749	Joseph Arth	Wood	15.00
4750	James T. Elwell	Wood	33.36
4751	Joseph Konchin	Wood	57.58
4752	Globe Oil Co	Oil	21.00
4753	Michael Lynch	Feed	16.80
	Total		$20,540.85

LIST OF VOUCHERS—Continued.

FEBRUARY 1891.

No. of Voucher	Name.	Claim.	Amount.
4754	John Caulfield, secretary	Pay roll January 1891	$4,630.77
4755	George Reis, city treasurer	Interest due February 1, 1891	3,750.00
4756	Louis Dupre	Wood at Baldwin lake	62.50
4757	J. T. Elwell	Wood at Baldwin lake	128.61
4758	Theodore Briand	Wood at Baldwin lake	63.30
4759	Thomas Schifsky	Wood at Baldwin lake	37.50
4760	August Lepet	Wood at Baldwin lake	24.00
4761	Richard Kemarer	Wood at Baldwin lake	34.80
4762	C. C. Grubs	Wood at Baldwin lake	15.75
4763	Michael Lynch	Oats	14.28
4764	George Watson & Bro	Insurance	24.75
4765	John Rogers, Jr. & Bro	Insurance	34.75
4766	E. P. Bassford	Architectural Services	225.00
4767	K. P. Cullen	Team and wagon	4.00
4768	James Gilfillan	Rent of storage ground	12.50
4769	Die Volkszeitung	Advertising	3.60
4770	P. V. Dwyer & Bros	One lead pipe	9.15
4771	Miles & Hale	Repairing door lock	1.00
4772	Ames, Wright & Co	Electric bell McCarron's lake	1.75
4773	De Coe & Co	Wire screen Lake Phalen	.90
4774	Nicols & Dean	Tools for pump house	1.47
4775	Brown, Treacy & Co	Printing and stationery	6.65
4776	J. L. Hertz & Son	Surveyors axes	1.00
4777	J. G. Duggan	Blacksmithing	37.30
4778	C. Collins	Blacksmithing	27.15
4779	H. P. Rugg & Co	Valves, pipe fittings, etc	12.80
4780	P. N. Lindquist	Horseshoeing	12.00
4781	Rogers & Ordway	Pipe fittings	8.05
4782	P. R. Kelly Mercantile Co	Oil, etc	18.54
4783	Joseph Buleus	Tools sharpened	4.35
4784	John Dowlan & Son	Wood	19.00
4785	George J. Mitsch & Co	Supplies for barn	3.05
4786	Boeringer & Sons	Repairing instruments	1.40
4787	Donaldson, Ogden & Co	Lantern fixtures	.65
4788	E. McNamee	Feed	7.46
4789	A. Decker & Co	Tools	4.75
4790	Brennan Lumber Co	Lumber	13.30
4791	Hudner & Regelsberger	Lead pipe	107.46
4792	Henry Bucher, Jr	Meals for laborers Rice lake	2.80
4793	Robinson & Cary Co	Steam gauge	2.50
4794	Shadle & Acker Coal Co	Estimate No. 6, Coal	1,699.28
4795	A. C. Mossbrugger	Hauling coal to Vadnais lake	25.23
4796	J. T. Elwell	Wood at Baldwin lake	70.50
4797	Albert Rehbein	Wood at Baldwin lake	15.00
4798	Joseph Arth	Wood at Baldwin lake	27.90
4799	A. H. Anderson	Wood at Baldwin lake	35.62
4800	Farwell, Ozmun, Kirk & Co	Powder and fuse	52.70
4801	Robert Seeger	Gasoline	.60
4802	John Caulfield, secretary	Cash advanced	27.58
4803	St. Paul Foundry Co	Castings	16.15
4804	Pioneer Press Co	Blank book and advertising	29.96
4805	Taylor Craig Corporation	Carpenter work	7.91
4806	John Bell & Son	Cement	3.75
4807	Prendergast Bros	Old lead, etc	5.00
4808	R. T. O'Connor, clerk courts	Copy law papers	2.25
4809	The Dispatch Printing Co	Advertising	2.00
4810	James H. Foote, Attorney for J. F. Eisenmenger	Law costs	11.50
4811	McArthur Bros., C. K. Flandrau attorney	Estimate No. 3, and final, canal etc., Baldwin lake	2,775.00
4812	McArthur Bros., C. K. Flandrau, attorney	Estimate No. 9, and final, Reservoir	1,508.00
	Total		$15,709.32

LIST OF VOUCHERS—Continued.

MARCH 1891.

No. of Voucher	Name.	Claim.	Amount.
4813	John Caulfield, secretary	Pay roll for February, 1891	$3,889.36
4814	George Reis, city treasurer	Interest due March 1, 1891	6,750.00
4815	Rogers & Ordway	Estimate No. 1 stop boxes	1,387.50
4816	Henry R. Worthington	Meters	20.28
4817	Hersey Manufacturing Co	Meter supplies	15.90
4818	James Gilfillan	Rent of storage ground	12.50
4819	Pratt-Hull Oil Co	Boiler compound	60.75
4820	A. C. Mossbruger	Hauling coal	41.30
4821	James T. Elwell	Wood	99.42
4822	J. T. Elwell for August Thon	Wood	42.00
4823	George J. Mitsch & Co	Supplies	2.05
4824	Anton Wenzel	Feed	2.40
4825	John Dowlan & Son	Wood	18.00
4826	Rogers & Ordway	Solder, etc	7.32
4827	Hudner & Regelsberger	Lead pipe	69.90
4828	John Rogers, Jr. & Bro	Insurance	15.00
4829	Robinson & Cary Co	Fire brick and supplies	18.46
4830	Adam Decker	Tools	1.25
4831	Scribner-Libby Co	Labor and material	10.10
4832	Brennan Lumber Co	Lumber	5.45
4833	Shadle & Acker Coal Co	Estimate No. 7 Coal	218.35
4834	Pioneer Press Co	Stationery, etc	27.40
4835	Brown, Treacy & Co	Stationery and printing	34.50
4836	Farwell, Ozmun, Kirk & Co	Powder, fuse, etc	13.15
4837	H. P. Rugg & Co	Pipe, couplings, etc	17.51
4838	John Bell & Son	Cement	5.00
4839	P. N. Lindquist	Horseshoeing	4.50
4840	P. H. Kelly Mercantile Co	Oil	5.10
4841	J. G. Duggan	Blacksmithing	10.15
4842	Joseph Bulena	Blacksmithing	10.50
4843	E. R. Harroun for B'k Minnesota	For frontage tax	500.00
4844	E. R. Harroun for Ger. Amer. B'k	Assessment 1891	500.00
4845	Charles Nonnemacher	Delaying grading	6.65
4846	Louis Dupre	Wood at Baldwin lake	64.62
4847	C. C. Grubs	Wood at Baldwin lake	41.13
4848	Joseph Arth	Wood at Baldwin lake	53.37
4849	James T. Elwell	Wood at Baldwin lake	232.68
4850	Joseph Boehm	Wood at Baldwin lake	18.46
4851	Theodore Briand	Wood at Baldwin lake	186.21
4852	Louis Holly	Wood at Baldwin lake	49.44
4853	Joseph Koncher	Wood at Baldwin lake	75.24
4854	William Spicer	Wood at Baldwin lake	206.32
4855	Albert Rehbein	Wood at Baldwin lake	84.52
4856	August Rehbein	Wood at Baldwin lake	87.19
4857	A. H. Anderson	Wood at Baldwin lake	59.00
4858	A. Thon	Wood at Baldwin lake	26.25
4859	John Hughes	Wood at Baldwin lake	76.15
4869	Peter Cardinal	Wood at Baldwin lake	30.25
4861	Adolph Hoffman	Wood at Baldwin lake	44.00
4862	Fred Wenzel	Wood at Baldwin lake	124.28
4863	Anton Wenzel	Wood at Baldwin lake	545.93
4864	Henry Bucher	Wood at Baldwin lake	249.20
4865	J. B. Burmler	Wood at Baldwin lake	88.44
4866	Lorenz Grosskopt for Jos. Metz	Wood at Baldwin lake	34.29
4867	G. H. Wilmot for Lewis & Hallan, attorneys	Wood at Baldwin lake	32.34
4868	Anton Wenzel	Wood at Baldwin lake	152.14
4869	J. T. Elwell	Wood at Baldwin lake	47.25
4870	Walter P. Jones	Wood at Baldwin lake	36.44
4871	Henry Spicer	Hauling wood at Baldwin lake	2.10
4872	D. L. Carlton	Wood at Baldwin lake	18.75
4873	William Spicer	Wood at Baldwin lake	68.75
4874	M. Gilbert	Wood at Baldwin lake	38.83
4875	E. McNamee	Feed	1.80
4876	Donaldson, Ogden & Co	Lantern globes, etc	1.39

LIST OF VOUCHERS—Continued.

MARCH 1898. Continued.

No. of Voucher	Name.	Claim.	Amount.
877	St. Paul Brass Works	Labor and castings	27.00
878	H. E. Wedelstadt	Map and balance of account	61.30
879	The Engineering Record	One years subscription to March 31, 1898	4.00
880	Clement Dolphey	Wood at Baldwin lake	122.08
881	Andrew Toole	Wood at Baldwin lake	27.27
882	Edward Marie	Wood at Baldwin lake	30.00
883	William Spicer	Wood at Baldwin lake	5.08
884	John Caulfield, secretary	Cash advanced	36.06
885	C. A. Winslow	Expenses on survey at Rice lakes	9.18
886	W. A. Somers	Expenses on survey at Rice lakes	10.25
887	George Reis, city treasurer	Interest due April 1, 1898	26,000.00
	Total		$41,941.33

LIST OF VOUCHERS—Continued.

APRIL, 1891.

No. of Voucher	Name.	Claim.	Amount.
4888	John Caulfield, secretary	Pay roll for March, 1891	$3,035.88
4889	John Rogers Jr., & Bro	Insurance on wood	10.00
4890	W. E. Magraw	Subscription to Daily Globe	2.55
4891	Hudner & Regelsberger	Lead pipe	47.41
4892	John Dowlan & Sons	Wood	17.00
4893	P. M. Lindquist	Horseshoeing	7.75
4894	Charles Friend & Son	Stable fittings	2.20
4895	H. P. Rugg & Co	Pipe, tools, etc	10.84
4896	George Reis, city treasurer	Sprinkling assessment	9.05
4897	Griggs Bros	Hay	102.74
4898	Michael Lynch	Oats	35.82
4899	Farwell, Ozmun, Kirk & Co	Tools	2.25
4900	James Gilfillan	Rent of storage ground	12.50
4901	Pioneer Press Co	Advertising and printing	14.75
4902	Brown, Treacy & Co	Stationery	2.55
4903	P. H. Kelly Mercantile Co	Printing and supplies	40.30
4904	Robert Seeger	Gasoline	1.20
4905	Shadle & Acker Coal Co	Estimate No. 8, coal	32.50
4906	Rogers & Ordway	Estimate No. 1, brass goods	601.90
4907	Rogers & Ordway	Estimate No. 2, stop boxes	462.50
4908	Rogers & Ordway	Est. No. 1 and final, lead pipe	1,477.57
4909	Rogers & Ordway	Pipe, couplings, etc	77.73
4910	J. G. Duggan	Blacksmithing	11.80
4911	Robinson & Cary Co	Machine supplies	112.20
4912	St. Paul Furniture Co	Office fixtures	5 85
4913	The Globe Publishing Co	Advertising	10.22
4914	St. Paul Brass works	Labor	12.25
4915	Dispatch Printing Co	Advertising	4.00
4916	George Mitsch	Repairing and painting buggy	14.75
	Total		$6,178.06

LIST OF VOUCHERS—Continued.

MAY, 1[illegible]

No. of Voucher	Name	Claim	Amount.
[illegible]	John Caulfield, secretary	Pay roll for A[illegible] 1[illegible]	[illegible]
[illegible]	George Reis, city treasurer	Interest due [illegible] May 1, 1[illegible]	[illegible]
[illegible]	George J. Mitsch & Co.	Supplies	[illegible]
[illegible]	Brennan Lumber Co.	Lumber	[illegible]
[illegible]	John Downes & Sons	Fuel	[illegible]
[illegible]	K. P. Cullen	Team and w[illegible]	[illegible]
[illegible]	James Gilliland	Rent of stor[illegible] ground	[illegible]
[illegible]	John Caulfield, secretary	Expenses at [illegible]	[illegible]
[illegible]	National Meter Co.	Meter fittings	[illegible]
[illegible]	Thompson Meter Co.	Meters	[illegible]
[illegible]	J. G. Duggan	Sharpening [illegible]	[illegible]
[illegible]	Taylor-Craig Corporation	Carpenter w[illegible]	[illegible]
[illegible]	F. S. Kelly Mercantile Co.	Brooms	[illegible]
[illegible]	Robert Seeger	Gasoline	[illegible]
[illegible]	St. Paul Rubber Co.	Hip boots	[illegible]
[illegible]	R. P. Rugg & Co.	Galvanized p[illegible] etc.	[illegible]
[illegible]	Rogers & Ordway	Pipe fittings	[illegible]
[illegible]	Board of Fire Commissioners	Hose	[illegible]
[illegible]	Farwell, Ozmun, Kirk & Co.	Powder, fuse, etc.	[illegible]
[illegible]	Robinson & Clay Co.	Oil, pipe, etc.	[illegible]
[illegible]	Henry K. Worthington	Meter supplies, etc.	[illegible]
[illegible]	Prince & Shandrew	Insurance	[illegible]
[illegible]	Prendergast Bros.	Copper ball	[illegible]
[illegible]	Charles Friend & Son	Hacksaw fittings	[illegible]
[illegible]	Joseph Ruleta	Blacksmithing	[illegible]
[illegible]	Brown, Treacy & Co.	Printing and stationery	[illegible]
[illegible]	E. McNamee	Feed	[illegible]
[illegible]	F. N. Lindquist	Horseshoeing	[illegible]
[illegible]	John Caulfield, secretary	Cash advances	[illegible]
[illegible]	Martin Funk	Lunch—time [illegible]	[illegible]
[illegible]	August Reibein	Refunds from [illegible]	[illegible]
[illegible]	Fire and Water	Year's subscr[illegible]	[illegible]
[illegible]	J. F. Wilcox	Labor at fire [illegible]	[illegible]
[illegible]	John Caulfield, secretary	Cash advances	[illegible]
[illegible]	Rogers & Ordway	Estimate No. [illegible] brass goods	[illegible]
[illegible]	Northwestern Stove and Lead Co.	Estimate No. [illegible] and tins	[illegible]
[illegible]	George Reis, city treasurer	Interest due [illegible] 1, 1[illegible]	[illegible]
	Total		[illegible]

LIST OF VOUCHERS—Continued.

JUNE, 1891.

No. of Voucher	Name.	Claim.	Amount.
4954	John Caulfield, secretary	Pay roll for May, 1891	$4,906.54
4955	James Gilfillan	Rent of storage ground	12.50
4956	Vacuum Oil Co	Oil	33 80
4957	J. P. Gribben Lumber Co.	Estimate No. 1 and final lumber	453.94
4958	J. P. Gribben Lumber Co	Lumber for Helson, etc	49.66
4959	Henry Bucher, Jr.	Board for men on flume Baldwin lake	122 50
4960	Hersey Meter Co	Meters	86.70
4961	Henry R. Worthington	Meters	676.80
4962	Michael Lynch	Oats	38.68
4963	John Dowlan & Sons	Wood	19.50
4964	George J. Mitsch & Co	Supplies	21.70
4965	George Mitsch	Repairing buggy	.75
4966	Pioneer Press Co	Miscell. Water receipt books	7.25
4967	Adam Decker & Co	Strap hinges	1.75
4968	P. N. Lindquist	Horseshoeing	11.25
4969	Joseph Bulena	Blacksmithing	2.50
4970	L. J. Templeton	Oats	33.00
4971	J. G. Duggan	Blacksmithing	40.55
4972	Goodyear Rubber Co	Hose clamps	3.37
4973	P. H. Kelly Mercantile Co	Oil, matches, etc	42.30
4974	The Globe Publishing Co	Pig lead, etc	2.11
4975	H. P. Rugg & Co	Valves, pipe, etc	13.98
4976	St. Paul Rubber Co	Hose, etc	21.00
4977	K. P. Cullen	Livery	11.00
4978	Minnesota Slate & Tile Co	Repairing slate roof	87.50
4979	Prendergast Bros	Repairing roof pump house	51.25
4980	Robinson & Cary Co	Pipe, packing, etc	80.60
4981	The Dispatch Printing Co	Job printing	15.50
4982	Globe Oil Co	Oil	17.50
4983	Brown, Treacy & Co	Job printing	24.65
4984	Robert Seeger	Gasoline	.80
4985	Charles Friend & Son	Leather and harness fittings	6.20
4986	John Bell & Son	Brick and clay	6.50
4987	Farwell, Ozmun, Kirk & Co	Powder, nails and tools	87.96
4988	John Melrose	Blasting timbers	10.00
4989	Shadle & Acker Coal Co	Estimate No. 9, and final, coal	1,508.32
4990	John Caulfield, secretary	Advance for frontage tax, etc	65.58
4991	First National Bank	Notes and interest	51,545.81
4992	Rogers & Ordway	Estimate No. 3, brass goods	51.41
4993	N. W. Shot & Lead Works	Estimate No. 1, and final	1,075.75
4994	Tarbox, Schliek & Co	Hip boots	14.65
4995	Galvin Brass & Iron Works	Automatic drip valves	96.00
4996	Brennan Lumber Co	Lumber	165.00
4997	J. L. Lovering	Rubber boots	9.54
4998	Joseph Ullman	Tallow	1.75
4999	DeCou & Co	Grass seed	4.50
5000	Hersey Manufacturing Co	Meter couplings	8.15
5001	R. D. Wood & Co	Hydrants	1,900.00
5002	George Reis, city treasurer	Interest due July 1, 1891	5,850.00
5003	William A. Pike	Services testing pump	110.00
	Total		$69,408.00

LIST OF VOUCHERS—Continued.

JULY, 1891.

No. of Voucher	Name.	Claim.	Amount.
5004	John Caulfield, secretary	Pay roll for June, 1891	$6,410.52
5005	Deane Steam Pump Co.	Estimate No. 2 and final	6,043.81
5006	Kenny Bros.	Estimate No. 1 and final	1,005.00
5007	A. W. Harris Oil Co.	One barrel valve oil	36.72
5008	Henry R. Worthington	Meters, etc.	328.08
5009	James Gilfillan	Rent of storage ground	12.50
5010	P. Grace	Oats	45.90
5011	The Dispatch Printing Co.	Blank books and printing	34.45
5012	Brown, Treacy & Co.	Stationery and printing	28.65
5013	George J. Mitch & Co.	Supplies	11.05
5014	Robert Warrington & Co.	Livery	18.00
5015	F. De Cou & Co.	Seed for reservoir ground	1.00
5016	W. E. Magraw	Daily Globe, May 1 to Aug. 1	2.55
5017	E. McNamee	Feed	1.53
5018	Henry Bocher, Jr.	Board for men repairing flume	17.55
5019	P. H. Kelly Mercantile Co.	Oil and printing	64.55
5020	J. G. Duggan	Blacksmithing	17.60
5021	C. M. Collins	Blacksmithing	6.70
5022	P. N. Lindquist	Horseshoeing	8.75
5023	John Dowlan and Sons	Fuel	25.00
5024	H. P. Ruger & Co.	Pipes, fittings, etc.	16.17
5025	John Martin Lumber Co.	Lumber for flume, etc.	59.13
5026	Nicols & Dean	Machine bolts	.46
5027	Farwell, Ozmun, Kirk & Co.	Tools, powder, etc.	137.30
5028	Pioneer Press Co.	Printing	9.50
5029	Joseph Rubens	Blacksmithing	7.80
5030	Howard-Harrison Iron Co.	Estimate No. 1, pipe	10,531.80
5031	Chris Sharp	Inspecting pipe	69.78
5032	D. L. Bell	Cement	5.00
5033	Robinson & Cary Co.	Tools, machinery, etc.	48.91
5034	St. Paul Brass works	Repairing gates, etc.	14.02
5035	Math Marxen	Physician services for child	25.00
5036	John Caulfield, secretary	Frontage tax refunded	27.16
5037	John Caulfield, secretary	Cash advanced	46.67
5038	E. H. Moses, for J. Irving	Estimate No. 1, drayage	175.42
5039	Charles L. Blake	Registering deed	.50
5040	Northwestern Stamp works	Dating machine and pad	3.85
5041	Martin Frost	Lunch—men cleaning reflect	5.00
5042	Rogers & Ordway	Plumber supplies, etc.	89.70
5043	Taylor-Craig Corporation	Building shed at Baldwin lake	24.30
5044	John Caulfield, secretary	Cash advanced	41.80
5045	M. F. Fielding	Repairing	77.80
5046	Charles Friend & Son	Harness repair, etc.	.90
5047	F. Ormsby, Jr.	Annual reports	48.60
5048	John Rogers, Jr. & Bro.	Insurance on office	30.00
5049	Northwestern Telephone Exch. Co.	Rental of instruments	80.00
5050	St. Paul Rubber Co.	Steam hose	10.25
5051	C. F. Woodner	Switch, etc., Baldwin lake	74.80
5052	Geo. Bros. city treasurer	Interest due Aug. 1, 1891	3,750.00
	Total		$29,520.63

LIST OF VOUCHERS—Continued.

AUGUST, 1891.

No. of Voucher	Name.	Claim.	Amount.
5053	John Caulfield, secretary	Pay roll for July, 1891	$8,242.68
5054	P. N. Lindquist	Horseshoeing	10.00
5055	Pratt-Hull Oil Company	Cylinder oil	25.75
5056	James Gilfillan	Rent of storage ground	12.50
5057	National Meter Company	Meters	60.00
5058	Galvin Valve and Hydrant Co	Valves	33.75
5059	D. Ramaley & Son	Blanks	2.50
5060	Globe Publishing Company	Advertising	10.63
5061	A. W. Morgan Manufacturing Co	Valve boxes	7.00
5062	H. R. Worthington	Meters and couplings	424.53
5063	John Dowlan & Sons	Wood	19.00
5064	Prendergast Bros	Water pails	1.35
5065	H. P. Rugg & Co	Plumbers' supplies	16.59
5066	Goodyear Rubber Company	Rubber pants	9.75
5067	Scribner-Libbey Company	One drive shoe	6.00
5068	C. Collins	Blacksmithing	3.75
5069	Jos. Bulena	Blacksmithing	34.90
5070	J. G. Duggan	Blacksmithing	48.25
5071	C. W. Hackett Hardware Co	Manure drags	.38
5072	Geo. J. Mitch & Co	Paints, etc	7.80
5073	Chas. Friend & Son	Harness repair	.85
5074	P. H. Kelly Mercantile Company	Oil	10.17
5075	Wm. Nelson	Boat hire at Phalen lake	5.50
5076	John Martin Lumber Company	Lumber	13.95
5077	Brown, Treacy & Co	Stationery	7.15
5078	Donaldson, Ogden & Co	Lantern burners	1.36
5079	Der Volkszeitung	Advertising	2.00
5080	Robinson & Cary Co	Machine supplies	173.01
5081	Farwell, Ozmun, Kirk & Co	Powder, fuse, etc	73.33
5082	St. Paul Foundry Company	Plugs, sleeves, etc	66.69
5083	W. P. Murray	Use of boat at Lake Phalen	5.25
5084	P. F. Fitzgibbon	One light glass for door	2.00
5085	Taylor-Craig Corporation	Hydrant boxes	40.75
5086	N. P. R'y Co., F. Farrington	One piece 12" main	13.13
5087	Pioneer Press Company	Advertising	7.00
5088	Galvin Brass and Iron Works	Drip valves	36.00
5089	Dale & Baumgardner	Est. No. 1, Vadnais lake	724.62
5090	Rogers & Ordway	Plumbers' supplies	63.40
5091	John Caulfield, secretary	Cash advanced	38.95
5092	Robert Seeger	Gasoline	2.00
5093	John Kodylek	Painting at McCarron's lake	102.50
5094	Geo. Reis, city treasurer	Interest due Sept. 1, 1891	6,750.00
	Total		$17,176.72

LIST OF VOUCHERS—Continued.

SEPTEMBER, 1891.

No. of Voucher.	Name.	Claim.	Amount.
5095	John Caulfield, secretary	Pay roll for August	$7,097.90
5096	Dale & Baumgardner	Estimate No. 2 and final	473.96
5097	Northwestern Shot and Lead Co	Estimate No. 1 and final	1,901.52
5098	John Grace	Feed	26.95
5099	D. Ramaley & Son	Printing	1.50
5100	James Gilfillan	Rent of storage ground	12.50
5101	Henry Bucher, Jr.	Board	49.60
5102	Robert Seeger	Gasoline	.80
5103	E. McNamee	Feed	1.30
5104	Goodyear Rubber Co	Hose and clamps	45.29
5105	C. W. Hackett Hardware Co.	Scythes, drags, etc	1.08
5106	Farwell, Ozmun, Kirk & Co.	Powder, fuse, etc	31.47
5107	P. H. Kelly Mercantile Co	Supplies	5.95
5108	H. P. Rugg & Co	Plumbers' supplies	11.11
5109	John Dowlan & Sons	Fuel	9.00
5110	Charles Friend & Son	Harness repair, etc	9.10
5111	George J. Mitscher & Co	Supplies	8.65
5112	J. G. Duggan	Blacksmithing	21.20
5113	P. N. Lindquist	Horseshoeing	10.50
5114	Joseph Bulena	Blacksmithing	24.55
5115	D. L. Bell	Cement	7.25
5116	St. Paul Brass Works	Labor and tin	64.10
5117	John Martin Lumber Co	Lumber	37.40
5118	Brown, Treacy & Co	Stationery	20.35
5119	William Nelson	Use of boat	7.75
5120	Die Volkszeitung	Advertising	3.00
5121	Robinson & Cary Co	Machine supplies	51.20
5122	John Caulfield, secretary	Frontage tax refunded	32.58
5123	John Caulfield, secretary	Cash advanced	47.05
5124	St. Paul Foundry Co.	Sleeves	37.20
5125	Rogers & Ordway	Plumbers' supplies	2.82
5126	Northwestern Fuel Co	Fuel	1,417.05
5127	George Reis, city treasurer	Interest due Oct. 1, 1891	25,000.00
	Total		$36,473.99

LIST OF VOUCHERS—Continued.

OCTOBER, 1891.

No of Voucher	Name.	Claim.	Amount.
5128	John Caulfield, secretary	Pay roll for September, 1891	$5,857 70
5129	M. F. Fielding	Relaying pavement	225.01
5130	James Gilfillan	Rent of storage lot	12.50
5131	The Cook Well Co	Well strainer, pipe, etc	77.85
5132	St. Paul Stone Co	Repairs for service connect'ns	4.20
5133	N. W. Shot and Lead Works	Lead pipe	50.67
5134	Howard Harrison Iron Company	Est. No. 2, pipe and specials	2,506.30
5135	D. Ramaley & Son	Printing postals	3.00
5136	A. C. Mossbrugger	Hauling coal, etc	28.06
5137	Warren-Scharf Asphalt Paving Co.	Relaying pavement	19.40
5138	Thompson Meter Co	Thompson meters	73 80
5139	Hersey Meter Co	Meters	152.75
5140	Pioneer Press Co	Blank books and printing	34.00
5141	John Grace	Oats	23.70
5142	H. P. Rugg & Co	Cylinder pumps and pipe fittings	14.74
5143	Charles Friend & Son	Harness fittings	2.45
5144	John Dowlan & Sons	Use of steam engine	13.50
5145	P. N. Lindquist	Horseshoeing	12.00
5146	J. G. Duggan	Blacksmithing	19.30
5147	Ed. McNamee	Bran	1.50
5148	George J. Mitsch & Co	Supplies	5.80
5149	Henry Bucher, Jr	Board of men at work	55.60
5150	Henry R. Worthington	Meter couplings	29.76
5151	William Nelson	Use of boat at Lake Phalen	4.00
5152	Lindeke, Warner & Schurmeier	Blankets	9.00
5153	Board of fire commissioners	Old hose	16.50
5154	D. L. Bell	Brick and cement	27.95
5155	Allen & Co	Livery	8.50
5156	H. L. Collins & Co	Envelopes	2.75
5157	P. H. Kelly Mercantile Co	Job printing, oil, etc	100.40
5158	Donaldson, Ogden & Co	Lantern fixtures	2.80
5159	Goodyear Rubber Co	Rubber boots	9.00
5160	John Martin Lumber Co	Lumber	72.51
5161	C. Collins	Sharpening tools	5.60
5162	C. Gotzian & Co	Rubber boots	16.80
5163	Rogers & Ordway	Pipe and fittings	61.99
5164	Brown, Treacy & Co	Stationery	28.00
5165	Adam Decker & Co	Hardware	5.59
5166	Northwestern Fuel Co	Estimate No. 2, Fuel	163.20
5167	W. E. McGraw	"Daily Globe" Aug. to Nov.	2.55
5168	The Dispatch Printing Co	Advertising	3.50
5169	Farwell, Ozmun, Kirk & Co	Powder, fuse and tools	18.84
5170	Taylor-Craig Corporation	Bepairing book case	4.50
5171	St. Paul Brass Works	Repairing hydrant valves, etc	14.25
5172	Robinson & Cary Co	Belting, pulleys, etc	40.85
5173	John Caulfield, secretary	Cash advanced	45.37
5174	C. W. Hackett Hardware Co	Scythe	.60
5175	Chester Oil Co	Gasoline, etc	2.45
5176	The E. P. Allis Company	Estimate No. 1, pump	16,000.00
5177	J. L. Lovering	Rubber boots	9.54
5178	R. Warrington & Co	Livery	5.00
5179	M. F. Fielding	Relaying pavement	72.34
5180	Galvin Brass & Iron Works	Drip valves	36.00
5181	Fire and Water	Advertising wells	3.00
5182	The Engineering Record	Advertising wells	8.20
5183	R. D. Wood & Co	Estimate No. 2, hydrants	380.00
	Total		$26,405.17

LIST OF VOUCHERS—Continued.

NOVEMBER, 1891.

No. of Voucher	Name.	Claim.	Amount.
5184	John Caulfield, secretary	Pay roll for October	$6,354.27
5185	D. L. Bell	Lime and Cement	6.10
5186	Brennan Lumber Co	Lumber	7.50
5187	Donaldson, Ogden & Co	Lantern fixtures	1.20
5188	George J. Mitsch & Co	Supplies	16.19
5189	Henry R. Worthington	Meters	193.50
5190	Charles Friend & Son	Stable supplies	5.22
5191	Board of fire commissioners	Condemned hose	35.40
5192	Pioneer Press Co	Letter heads	9.00
5193	H. L. Collins Co	Printing	12.00
5194	Adam Decker & Co	Hardware	.79
5195	E. McNamee	Oats	57.92
5196	F. W. Luley & Son	Tallow	1.10
5197	Robert Warrington & Co	Livery	16.00
5198	J. P. Gribben Lumber Co	Lumber	27.35
5199	Martin Fetet	Lunch—men cleaning conduit	5.00
5200	P. H. Kelly Mercantile Co	Oil, brooms, etc	48.98
5201	Joseph Bulena	Sharpening tools	11.75
5202	C. Collins & Son	Sharpening tools	2.10
5203	J. G. Duggan	Sharpening tools	49.35
5204	John Martin Lumber Co	Lumber	4.67
5205	P. N. Lindquist	Horseshoeing	9.50
5206	Henry Bucher, Jr	Board	1.40
5207	Nicols & Dean	Boat spikes	.44
5208	A. C. Mossrugger	Hauling coal	36.72
5209	H. P. Rugg & Co	Pipe, fittings, etc	210.66
5210	Rogers & Ordway	Plumbers' supplies	64.00
5211	Robinson & Cary Co	Machine supplies	58.72
5212	Farwell, Ozmun, Kirk & Co	Powder, fuse and hardware	14.11
5213	Brown, Treacy & Co	Stationery and printing	25.12
5214	Northwestern Fuel Co	Estimate No. 3, fuel	356.66
5215	St. Paul Brass works	Pig tin and labor	56.93
5216	Taylor-Craig Corporation	Hydrant boxes and labor	13.80
5217	Farwell, Ozmun, Kirk & Co	Wire screens	37.74
5218	Joseph Rothwell	Ironwork on screens	128.08
5219	Justus Kahlert	Repairing valves, etc	6.65
5220	Prendergast Bros	Material and labor	6.77
5221	D. Ramaley & Son	Printing	8.75
5222	The A. D. Smith Co	Labor	.75
5223	The Dispatch Co	Advertising	1.50
5224	Scribner-Libby Co	Material and labor	6.85
5225	James Gilfillan	Rent of storage lot	12.50
5226	M. F. Fielding	Repaving	63.50
5227	John Caulfield, secretary	Cash advanced for mis. expen	43.97
5228	Richard Price	Veterinary services	2.50
5229	Miles & Hale	Changing comb. on vault door	1.00
5230	Kenney Bros	Labor at Vadnais lake	13.65
5231	The Globe Publishing Co	Advertising	5.37
5232	John Caulfield, secretary	Cash advanced for mis. expen	16.24
5233	R. D. Wood & Co	Hydrant repairs	15.75
5234	E. H. Morse for Jackson Strane	Est. No. 2 and final, drayage	138.04
5235	George Reis, city treasurer	Interest due Nov. 1, 1891	8,750.00
5236	Howard Harrison Iron Co	Est. No. 3, pipe and specials	508.26
5237	Howard-Harrison Iron Co	Estimate No. 4, pipe	1,710.02
	Total		$19,190.74
	Grand total		$319,762.69

METERS.

Kind of Meter.	Sizes.								Total
	½"	⅝"	¾"	1"	1½"	2"	3"	4"	
Worthington (improved)	1	73	81	32	36	6	4	2	235
Worthington (old style)	1	4	19	11	9	2	2	.....	48
Union (rotary)	....	11	13	8	7	.....	1	.....	40
Union (piston)	.....	3	3	6	2	.....	.....	.....	14
Nash	.....	2	2	.....	.....	.....	.....	.....	4
Crown	.....	7	5	14	28	4	1	1	60
Empire	21	17	44	29	.....	8	.....	1	120
Hersey	.....	7	15	15	10	3	1	.....	51
Thompson	.....	2	3	2	.....	.....	.....	.....	7
Frost	.....	.....	1	.....	.....	.....	.....	.....	1
Total	23	126	186	117	92	23	9	4	580

33 Meters are owned by consumers, and the balance by the water department.

SHUTTING OFF AND TURNING ON WATER FROM DEC. 1, 1890, TO DEC. 1, 1891.

	High Service.	Low Service.	Total.
Shut off for repairs	169	315	484
Shut off for non-payment	154	171	325
Shut off for vacant premises	488	546	1,034
Total	811	1,032	1,843
Turned on, old services	725	840	1,565
Turned on, new service	1,014	291	1,305
Turned on for builders	18	12	30
Total	1,757	1,143	2,900

Total services shut off and turned on for year ending Dec. 1, 1891.....4,743
Total services shut off and turned on for year ending Dec. 1, 1890.....3,919
Total services shut off and turned on for year ending Dec. 1, 1889.....3,978
Total services shut off and turned on for year ending Dec. 1, 1888.....2,833
Total services shut off and turned on for year ending Dec. 1, 1887.....2,541
Total services shut off and turned on for year ending Dec. 1, 1886.....2,384
Total services shut off and turned on for year ending Dec. 1, 1885.....2,311
Total services shut off and turned on for year ending Dec. 1, 1884.....1,014

SUPERINTENDENT'S RERORT.

ST. PAUL, Dec. 1, 1891.

To the Honorable President and Members of the Board of Water Commissioners:

GENTLEMEN: I have, with your grace, the privilege to herewith submit my tenth annual report, showing the work done in the past year, and the present condition of the works.

The following statement shows the extensions made this season:

LOW SERVICE:

	Feet.
4-inch pipe	392
6-inch pipe	3,177
12-inch pipe	3,973
A total on low service of	7,542

Or one mile and 2,262 feet.

HIGH SERVICE.

	Feet.
4-inch pipe	1,730
6-inch pipe	20,712
12-inch pipe	24
24-inch pipe	88
A total on high service of	22,554

Or four miles and 1,434 feet.

Grand total of mains laid this year, five miles and 3,696 feet, making a grand total of supply and distribution mains to date of 198 miles and 4,962 feet.

REPAIRS.

Repairs have been heavy, on account of so many necessary changes of grade. On the following streets the pipe was changed on account of such grade. The 12-inch pipe on Jackson, from Winter to Pennsylvania; the 6-inch main on Mt. Airy, Fairview to Warren; the 6-inch pipe on Fairview, Valley to Mt. Airy; the 16-inch pipe on Valley, Jackson to Warren; the 6-inch pipe on Sixth, Hoffman to Maria; the 4-inch pipe on Sixth, Broadway to Olive, in all about three-quarters of a mile.

The following leaks and breaks have occurred: One break in settling of sewer, one in newly-filled street and four leaks in joints. This is a very remarkable record on nearly 200 miles of pipe in use, ranging from 4 to 36 inches in diameter, and under a pressure of from 10 to 146 pounds to the square inch. This record is equaled by but few (if any) cities in the country.

This result was obtained by the following methods:

First—By the use of heavier bells than are generally used in other cities.

Second—Using a dove-tailed joint.

Third—Clay rolls from 2 to 2½ inches, according to the size of the pipe, so as to leave plenty of lead outside of the bell to caulk with.

Fourth—By using caulking hammers weighing from 3½ to 4 pounds and requiring hard caulking.

Fifth—By calking the bottom of the joint first.

HYDRANTS.

Our fire hydrants are at present in a satisfactory state of repair. Sixty-five new fire hydrants were placed this year, making a total of 1,813 now in use. The repairs on same for the past year were as follows: Twenty-eight leaks in main valves caused by sand, four in seat packing, six broken ring or waste valves, one ring valve nut lost, one leak in elbow and four broken rods; total, fourty-four. There are in service now 226 street sprinkling hydrants, ten of which were placed this year.

VALVES.

Forty-two new valves were placed this year making a total of 1749 in all. Fourteen leaks in stuffing boxes were repaired.

SERVICE PIPES.

Ten hundred and seventy-five service pipes were put in this year, making a total of eleven thousand, five hundred and thirty-three on high and low service. The leaks in the same were twenty-five, seven of which were caused by sewer contractors and the balance by ordinary wear and tear. I regard this as small considering the number now in use.

The past year has developed a new source of annoyance to our system, if not new to "water works" throughout the country. A trouble that is no less than a vegetable growth in the service pipes. The first case I discovered was where two service pipes, laying in the same trench, supplied a double house. A complaint was made of bad water. I had the mains flushed but the situation was not improved. I personally inspected the place and found the water very dirty, while on the other side it was pure and sparkling, and learned it had always been so. The two services connecting at the main within one foot of each other, was conclusive evidence in my mind, that it was not the main, but the service that was foul. I at once resolved to steam the pipe and obtained a portable engine, putting on

seventy pounds steam against thirty-five pounds water pressure for thirty minutes thereby forcing the water out of the pipe. Since then I have repeatedly called at the same house and found the water perfectly clean. There have been some twelve cases of similar nature, which I have treated in the same manner with complete success. Great care must be taken that there are no leaks in the service pipes, or that none of the fixtures are opened during the steaming process or instantly the house would be full of steam. By applying the steam to faucet at kitchen sink the best results are obtained.

If the same trouble occurs another year it will be necessary to have a portable engine that will carry one hundred and fifty pounds steam pressure, as we have over a hundred pounds water pressure in places, and it requires at least thirty-five pounds more steam than water pressure to render efficient service.

I respectfully tender my warmest thanks to the members of the board and to all officers of the department, for the uniform kindness and courtesy received at their hands at all times.

I remain, gentlemen, your obedient servant,

J. B. OVERTON.
Superintendent.

PIPE LAID ON LOW SERVICE DURING THE YEAR 1891.

Date.	Street.	From Street to Street.	Number of Feet and Size of Pipe.		
			4-in.	6-in.	12-in.
April 17	Logan	Bay to Canton	.....	814	.....
June 19	Fourth	762 feet East of Kittson	.....	.....	862
Aug. 7	Erie	Seventh to St. Clair	.....	1,132	.....
" 13	Congress	350 feet east of Bancroft	392	.....	.....
Sept. 8	Goodrich	Western to Richmond	.....	.....	653
" 30	Third	John to W. end of Third St. bridge	.....	.....	288
Oct. 7	Minnehaha	De Soto to Rivoli	.....	486	.....
" 22	St. Clair	Crossing Seventh	.....	.....	48
" 26	Concord	Andrew to Curtiss	.....	.....	2,182
Nov. 1	Winslow	Isabel to Prospect Terrace	.....	745	.....
	Totals		392	3,177	3,973

Total 4-inch pipe.... 392
Total 6-inch pipe....3,177
Total 12-inch pipe....3,973

7,542 feet, or 1 mile 2,262 feet.

PIPE LAID ON HIGH SERVICE DURING THE YEAR 1891.

Date.	Street.	From Street to Street.	Number of Feet and Size of Pipe.			
			4-in.	6-in.	12-in.	24-in.
May 28	Minnehaha	At Dale			24	
June 19	Elfelt	Lafond to Blair	361			
" "	Lafond	Elfelt to Farrington		370		
" "	Farrington	Crossing Lafond		42		
" 24	Manitoba	Rice to Sylvan		1,139		
" 28	Front	Rice to Sylvan		1,140		
" 30	Fuller	Dale to St. Albans		592		
July 2	Auburn	968 feet east of Prior		938		
" 10	Dayton	Snelling to Fairview		2,576		
" 16	Fry	Territorial road to capitol	1,087			
" "	Van Buren	Fry to Wheeler		1,261		
" 29	Lawson	Mendota to Edgerton		3,252		
Aug. 4	Raymond av	Tainter to Wheeler		398		
" 7	Maryland	Arcade to Edgerton		2,548		
" 10	Forrest	St. P. & D. railroad to Wells		253		
" 17	Avon	Martin to St. Anthony	282			
" 22	Linwood	Osceola to Grotto		745		
" 27	Ashland	Milton to Chatsworth		656		
Sept. 2	Stinson	Farrington to Western		654		
" 27	Hoffman	At Sixth		35		
" "	Sixth	Hoffman east 110 feet		150		
Oct. 10	Linden	Mt. Airy to Arch		646		
Nov. 1	Force Main	At pump house				70
" "	Suction Main	At pump house				18
" 14	Duluth	Seventh to Omaha railway		380		
" 17	Jessamine	Rice to Sylvan		1,140		
" "	Winnipeg	Rice to Sylvan		1,142		
	Aurora	Milton to Chatsworth		655		
	Totals		1,730	20,712	24	88

Total 4-inch pipe..... 1,730
Total 6-inch pipe..... 20,712
Total 12-inch pipe..... 24
Total 24-inch pipe..... 88

22,554 feet, or 4 miles 1,434 feet.

Total mileage laid this year on high and low service, 5 miles and 3,696 feet.

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON GRAVITY SYSTEM, OR LOW SERVICE, TO DEC. 1, 1891.

Street.	From Street to Street.	Number of Feet and Size of Pipe.							
		4-in.	6 in.	12-in.	16-in.	20-in.	24-in.	30-in.	36-in.
Alabama	Crossing State		55						
Armstrong	Drake to Chatsworth		3,865						
Audubon	East of Seventh		38						
Ada	Robie to Winnifred	334							
Banfil	Smith av. to Richmond	2,280							
Bay	Stewart to Seventh		1,300						
Beaumont	De Soto to Payne		1,821						
Becker Pl	Lafayette to De Soto		481						
Bedford	North to Minnehaha		1,327						
Bradley	Seventh to Minnehaha	428	1,298						
Broadway	Miss. River to Univer'y	498	1,735		1,968		1,741		
Bruno	East of Lafayette		47						
Burr	Patridge to Fauquier		2,473						
Bancroft	Concord to Congress		985						
Bidwell	Isabel to Congress		302						
Canada	Ninth to University		2,055						
Cedar	Third to Summit		289	2,573		614			
Chestnut	Seventh to Washingt'n		1,235						
Colborne	Jefferson to Superior		1,763						
College	Cedar to Smith Av		1,670						
Collins	Lafayette to Bedford		1,016						
Cross Miss. R	Broadway to State				1,089				
Concord	Isabel to Curtiss			6,476					
Congress	350 ft. E. of Bancroft to Carlton	392	6,425						
Chicago	Wabasha to S. Robert		741						
Colorado	R. R. to Parnell		1,240						
Clinton	Congress to Winifred		308						
Columbia	Glencoe to Penn'lvania		745						
Decatur	Bedford to Beaumont		710						
De Sota	Hopkins to Fauquier		453	1,540					
Douglas	Seventh to Ramsey		1,144						
Duke	Seventh to Cascade		1,057						
Dousman	VonMinden to Goodhue		576						
Delos	Greenwood to Stryker		2,016						
Daly	James to Jefferson		986						
Dearborn	Robert to Livingston		322						
Eagle	Spring to Seventh		1,449						
Eighth	Wabasha to 110 ft. E. of Neill	4,691							
Eleventh	Cedar to Olive	557	1,238						
Elm	Exchange to Milw. Ry	406							
Exchange	Wabasha to Wilkin	3,962							
Eaton	At Indiana and Fairfield crossing		51		100				
Edgerton	Minnehaha to Reaney		328						
Erie	Seventh to St. Clair		1,132						
Emma	Western to Short Line	373							
Fairfield	State to Wabasha		2,812						
Fauquier	Payne to De Soto			1,982					
Fifth	Third to Kittson	4,902	2,229						
Fort	Seventh to Tenth					1,616			
Fourth	Exchange to 762 ft. E. of Kittson		4,865	2,679					
Fourteenth	Broadway to Robert		1,368						
Franklin	Elm to Ninth	2,784							
Fillmore	Wabasha to State		2,808						
Fred	300 ft. East of Burr	337							
Garfield	Ramsey to Goodrich		1,002						
Goodhue	Cliff to Duke		2,817						
Goodrich	Mil. Short Line to Richmond		1,260	1,763					
Grace	Seventh to Colborne		72						
Grove	Monroe to Jackson	133	1,310			1,544			
Glencoe	Mississippi to Col'mbia		592						
George	State to Stryker			2,625					
Goff	Wabasha to Winifred		105						

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON GRAVITY SYSTEM OR LOW SERVICE TO DEC. 1, [illegible]—Continued.

Street	From Street to Street	Number of Feet and Size of Pipe							
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Harrison	Douglas to [illegible] W. of Western		[illegible]						
Hopkins	De Soto to Bradley		701						
Hall	George to Prospect Terrace		[illegible]						
Indiana	State to [illegible]			[illegible]	[illegible]				
[illegible]	State to [illegible]			[illegible]					
Jackson	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]			
Jefferson	[illegible]			[illegible]					
James	[illegible]		[illegible]						
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]	[illegible]	[illegible]						
[illegible]	[illegible]		[illegible]						
Kentucky	[illegible]		[illegible]						
Lafayette	[illegible] to De Soto	[illegible]		[illegible]	[illegible]				
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible] to Jackson	[illegible]							
[illegible]	[illegible]					[illegible]			
[illegible]	[illegible]		[illegible]						
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[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]		[illegible]						
Magnolia	[illegible]		[illegible]						
[illegible]	[illegible]	[illegible]							
[illegible]	[illegible]		[illegible]						
Minnesota	[illegible]	[illegible]	[illegible]						
Mississippi	[illegible]		[illegible]					[illegible]	[illegible]
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[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]	[illegible]	[illegible]						

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON GRAVITY SYSTEM, OR LOW SERVICE, TO DEC. 1, 1891.—Continued.

Street.	From Street to Street.	Number of Feet and Size of Pipe.							
		4-in.	6-in.	12-in.	16-in.	20-in.	24 in.	30-in.	36-in.
Sixth	Kittson to Pleasant	4,936	1,893						
Smith st	Wilkin to Douglas		1,074						
Smith av	College to McBoal		3,924						
Somerset	John to Pine	669							
Spruce	Sibley to Wacouta	393							
State	Miss. river to Oakdale				6,199				
Summit av	Robert to Cedar		859						
Stryker	George to Prospect ter		2,106						
Stewart	Tuscarora to Bay		909						
Temperance	Eighth to Thirteenth	1,569							
Tenth	Locust to College	1,765	2,123			1,390			
Third	College to west end of Third street bridge		1,130	6,624					
Thirteenth	Pine to Jackson	310	1,765						
Thompson	Ramsey to Pleasant		545						
Twelfth	Pine to Cedar	290				1,274			
Toronto	Seventh to Jefferson		692						
Tennessee	Crossing State		51						
Tuscarora	Stewart to Milton		2,624						
Von Minden	Dousman to Western		897						
View	Seventh to Randolph		1,297						
Wacouta	Third to Spruce	1,077	1,378	64					
Walnut	100 ft. S. of I. P. to Pleasant	2,420							
Warsaw	Audubon to Seventh		219						
Washington	Chestnut to Sixth	2,002		41					
Waverly pl	Lafayette to John		411						
Webster	Clay to Seventh		316						
Western av	Mil. Ry. to Pleasant		2,550						
Westminst'r	Waverly Pl to N. P. Ry		1,022						
Willius	Fifth to Seventh	550							
Wilkin	Mil. Ry. to Sherman		1,215						
Winnifred	Andrew to 48 ft. W. of Bellows		5,492						
Woodward	Bradley to John	683							
Wabasha	Goff to Summit		6,965						
Watson	View to Chatsworth		2,133						
Winslow	Isabel to Prospect Ter.		745						
Yankee	Seventh to Dousman	678							
Main lin old	Fauquier to L. Phalen				6,000		7,024		
Totals		50,780	178,725	42,916	34,802	8,302	8,765	16,436	18

Low Service—

Total 4-inch pipe	**50,780**
Total 6-inch pipe	**178,725**
Total 12-inch pipe	**42,916**
Total 16-inch pipe	**34,802**
Total 20-inch pipe	**8,302**
Total 24-inch pipe	**8,765**
Total 30-inch pipe	**16,436**
Total 36-inch pipe	**18**

340,744 feet, or 64 miles 2,824 feet.

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON HIGH SERVICE TO DECEMBER 1, 1891.

Street.	From Street to Street.	Number of Feet and Size of Pipe.						
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	36-in.
Arundel	Summit to Lafond	4,553						
Ashland	Western to Chatsworth		6,545					
Aurora	Robert to Chatsworth		7,814					
Arcade	Third to Rose		1,070	5,282				
Astoria	St. Anthony to Milwaukee av		275					
Argyle	Van Slyke south 300 feet		300					
Auburn	Fairview to Prior		1,444					
Arch	100 ft. W. Col'mbia to Jacks'n		1,725					
Atlantic	Fauquier to Seventh		147					
Atwater	Rice to Sylvan		1,242					
Agate	Courtland to York		1,730					
Avon	Iglehart to Martin	995						
Bates	Murray to Hastings		276	2,895				
Beech	Seventh to Duluth		3,738					
Blair	Western to Dale		2,642					
Broadway	Thirteenth to Mt. Airy		467		532			
Brewster	University to Como		1,676					
Burr	Omaha to Cook		2,605					
Burgess	Crossing Dale		68					
Bayless	Raymond to Langford park				2,995			
Bayless pl.	Raymond to Bayless av	992						
Burns	Mound to Griffith		2,753					
Blake	Raymo'd to Langfo'd P. P. E.		382		186			
Beacon	University to Shields	594						
Buffalo	Capitol to Genesee		631					
Canada	University to Valley		290					
Capitol	Mississippi to Wheeler		6,172					
Carroll	Rice to Cleveland		13,202					
Conway	Cypress to Maria		3,087					
Cedar	Summit to Como		2,496					
Central av.	E. line of Cen. Park to Rice	557	1,254					
Central P. D. E. & W.	Summit to Central av	1,280						
Charles	Rice to Milton		8,516					
College	Rice to Third		1,365					
Como	Rice to Dale					6,555		
Cherry	267 ft. W. Hoffman to Maria	267	565					
Cook	Mendota to Rice		4,380					
Case	Forrest to Terrace		345	6,651				
Claghorn	Lafond to Van Buren		628					
Cypress	North of Euclid	45						
Cromwell	Pym to Manvel		992					
Cudworth	Bayless to Eustis		985					
Clark	Whitall to Case		1,308					
Cross	At Lexington		25					
County road	Langford av to Dooley				256			
Crocus pl	Goodrich to Fairmount	1,314						
Chatsworth	Evergreen to Osceola		212					
Cleveland	University to Carroll				3,313			
Courtland	Capitol to Maryland		252		4,600			
Cayuga	Mississippi to Courtland		1,630					
Dale	Fairmount to reservoir	4,800		2,100	5,280	1,453	14,482	1,560
Dayton	Summit to Cleveland		9,345	4,675				
Duluth	Seventh to Omaha Ry		434					
Dayton pl.	West of Maria	275						
De Soto	Whitall to Lawson		1,921					
Dawson	Arcade to Frances		1,247					
Dooley	County road to Chelmsford		827					
Earl	Seventh to Burns			3,575				
Edmund	Rice to Milton		8,518					
Eichenwald	Sixth to Seventh		532					
Euclid	Maple to Earl		2,301					
Elfelt	Charles to Blair	1,934						
Edgerton	York to Rose			3,906				
Everett ct	Wheeler to Great North'n Ry		355					
Evergreen	Victoria to Oxford		1,254					

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAIN LAID ON HIGH SERVICE TO DEC. 1, 1891—Continued.

Street.	From Street to Street.	Number of Feet and Size of Pipe.						
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	36-in.
Farrington..	Summit to Lafond		3,131					
Fauquier....	290 ft. E. of Atlantic to Weide		5,273					
Fuller.....	Rice to 200 ft. W. of Oxford..		8,092					
Fifth	125 ft. E. of Hoffman to Maple		1,543					
Floral.....	Grand to Summit	480						
Fourth.....	Forrest to 400 ft. W of Maria		3,368					
Francis.....	Arcade to Cypress		1,264					
Front.....	Sylvan to Lexington		1,140	10,499				
Forrest.....	Conway to Geranium		2,783					
Fairmount..	Dale to Victoria		2,320	518				
Feronia.....	Fairview to Prior		1,378					
Freemont...	Earl to Arcade		2,577					
Fairview av	St. Anthony to Auburn				1,670			
Fry.....	Territorial road to Capitol...	1,087						
Force Main.	At pump house						70	
Grand.....	Lawton to Lexington		5,194					
Grove.....	Seventh to Pine				2,618			
Grotto.....	Lincoln to Lafond		4,594					
Goodrich....	782 ft. E. of Dale to Oxford..		5,358					
Greenbrier..	Seventh to Case		40	650				
Gaultier....	Sherburne to Cook		2,689					
Gordon.....	Nourse to Raymond		646	463				
Geranium...	Arcade to Edgerton		1,303					
Genesee.....	Mississippi to Buffalo		814					
Granite.....	Mississippi to Courtland		1,622					
Hoffman.....	Clermont to Seventh		2,946					
Holly	Western to Victoria		5,287					
Hague.....	Dale to Lexington		5,181					
Hudson.....	Cypress to Maria		2,389	194				
Hastings....	Bates to Hester			3,066				
Hewitt.....	144 ft. E. of Sheld'n to Aldine		3,599					
Hope	Sixth to Seventh		530					
Hampden...	Raymond to Hersey		1,646					
Iglehart.....	Wabasha to Cleveland		14,056					
Jackson.....	Viola to Sycamore		236	2,237	145			
Jay.....	St. Anthony to Fuller		656					
Jessamine..	Rice to Forrest		8,186					
Jessie.....	Case to Jessamine		1,643					
Kent.....	Portland to Carroll	2,201						
Kinwood pk	St. Albans around said park		767					
Knapp	Langford P. P. E. to Lang. av		879					
Laura.....	Waltham to University		1,211					
Laurel	Nina to Fisk		8,297					
Lawton.....	Grand to Selby		480					
Lincoln.....	Oakland to Oxford		5,475					
Louis.....	Nelson to Fuller		2,122					
Linden.....	Mt. Airy to Arch		696					
Lafond.....	Rice to Milton		6,978					
Lynhurst E. & W.	University to Ferronia		1,850					
Lexington..	Grand to Van Slyke				3,158			
Langford P. P. E.	Bayless to Knapp		415		427			
Langford P. P. W	Bayless to Gordon		181	670				
Langford av	Scudder to county road				838			
Lookout pl..	Arkwright to Westminster		447					
Litchfield...	Rice to Sylvan		1,142					
Leslie.....	Victoria to Chatsworth		1,356					
Lawson.....	Mendota to Edgerton		3,252					
Linwood.....	Osceola to Grotto		745					
McCarr'n rd	Pump house to Dale					6,124		
Mackubin ..	Summit to Edmund		5,708					
Maple.....	Hastings to Seventh		2,660	811				
Margaret....	Gotzian to Greenbrier		4,782					
Martin.....	Central to Milton		7,739					

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON HIGH SERVICE TO DEC. 1, 1881.—Continued

Street.	From Street to Street.	Number of Feet and Size of Pipe.						
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	36-in.
Maria	River to North		5,481					
Marshall	Western to Prior		2,640	4,708				
Mendota	Hudson to Fauquier		655	3,286				
Mt. Airy	L'Orient to Robert		2,024					
Maryland	Dale to Arcade		2,548	10				
Marlon	University to Lafond		1,639					
Minnehaha	Duluth to Snelling		3,878	4,182				
Mound	Hastings to 335 ft. W. of Earl		1,298	1,536				
Milw'kee av	Merriam Place to Astoria		570					
Manvel	Robbins to Raymond		1,142					
Magnolia	85 ft. E. Forrest to Edgerton		4,050					
Mulberry	Third to Sixth	365						
Milford	Rice to Woodbridge		655					
McLean	At Maria		137					
Mississippi	Gt. Northern Ry. to Cayuga		1,136					
Manitoba	Rice to Sylvan		1,139					
Nelson	Summit to Western		2,422					
Nina	Summit to Selby		890					
North	Maria to Seventh		1,035					
Nourse	Gordon to N. P. Ry.		392					
Oakland	Ramsey to Summit		3,662					
Olive	Olmsted to Pennsylvania		1,057					
Oakley	Lynnhurst W. to Prior		451					
Osceola	Pleasant to Chatsworth		3,709					
Park pl.	Park drive S. W	574						
Park av.	Martin to Viola		1,436					
Pine	Grove to Pennsylvania		1,820		387			
Portland	Summit to Victoria		5,290					
Penn'vania	Olive to Pine		342					
Plum	Maple to Hoffman		1,150					
Prior	University to Dayton		422	3,447				
Payne	Omaha Ry. to Ivy		5,629					
Pascal	Minnehaha to Taylor		1,743					
Pym	Bayless to Eustis			736				
Priscilla	Raymond av E		542					
Pratt	Raymond to Gibbs		762					
Phalen	Seventh to Stillwater			1,419				
Pleasant	Osceola to St. Albans			569				
Rice	College to Jessamine		495	2,147	5,990	1,154		
Robert	171 ft. S. Univ'sity to Mt. Airy		770					
Rondo	Rice to Terrace Park av		9,879					
Reaney	English to Greenbrier		6,448					
Ramsey	Oakland to Summit		1,259					
Ross	Atlantic to Seventh		2,467					
Ravoux	Rondo to Fuller	616						
River	Maria to Hoffman	359						
Ravine	Maple to 344 ft. W of Maria	1,423						
Raymond	University to Langford av		3,205		1,588			
Robbins	Bayless to Raymond park		440					
Rose	Walsh to Arcade		836					
St. Anthony	Rice to Cleveland		13,893					
St. Peter	College to University		2,557					
Selby	Summit to Oxford		9,293					
Seventh	Phalen to Grove				9,920			
Sherburne	Jackson to Chatsworth	400	10,470					
Sinnen	Sixth to Seventh		541					
S'ction main	Pump house to terminal						925	
Summit av.	C. P. D. E. to Macalester	872	4,316	10,830				
Summit pl.	Nelson to Fuller		2,122					
St. Albans	Pleasant to Martin	1,704	300	556				
Sims	Forrest to Edgerton		3,922					
S'mmit C. A.	East of Lawton		362					
Short	Maria to Hoffman		591					
Snelling	Goodrich to Manitoba Ry.				11,195			
Simpson	Capitol to Hewitt		887					
Sixth	Hoffman to Arcade		2,646					

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON HIGH SERVICE TO DECEMBER 1, 1891—Continued.

Street.	From Street to Street.	Number of Feet and Size of Pipe.						
		4-in.	6-in.	12-in.	16-in.	20-in.	24-in.	30-in.
Sidney	Raymond to Bradford		610					
Scudder	Blake to Langford av				1,347			
St. Clair	Victoria to Oxford			1,935				
Stinson	Gaultier to Western		1,266					
Sycamore	Rice to Courtland			2,509				
Third	Cypress to Summit	367	4,154					
Thirteenth	Pine to Broadway				778			
Tilton	Wabasha to Rice		1,278					
Thomas	Como to Chatsworth		7,605					
Topping	At Como and at Dale		118					
Taylor	Charlotte to Holton		2,467					
Ter'torial rd	Raymond to Eustis		1,498					
University	Broadway to Raymond		40	5,304	3,594	19,164		
Valley	Broadway to Jackson				1,789			
Viola	Jackson to Rice		1,653					
Victoria	St. Clair to Lafond				9,518			
Virginia	Summit to Como	2,432	1,798					
Van Buren	Western to Wheeler		6,485					
Van Slyke	Lexington to Argyle		1,133					
Wabasha	Summit to Park av	537	842					
Western	Summit to Como			1,775	6,285			
Williams	Olive to Mississippi		857					
Waltham	Laura to Prior	950						
Wilder	Iglehart to St. Anthony		1,388					
Whitall	Payne to Clark		2,301					
Walker	Hewitt to Gt. Northern Ry.	807						
Wesley	Pascal to Fry	304	621					
Workhouse	Extension W. of Lexington		687					
Wheeler st	Bayless to Eustis court			1,012				
Westminst'r	Lookout Place to Case		384					
Wheeler av	University to Shields		588					
Woodbridge	Atwater to Front		1,297					
Winnipeg	Rice to Sylvan		1,142					
York	Forrest to Courtland		5,782					
	Total	30,093	455,426	94,302	78,350	34,450	15,477	1,560

High Service—
Total 4-inch pipe..... 30,093.
Total 6-inch pipe.....455,426.
Total 12-inch pipe..... 94,302.
Total 16-inch pipe..... 78,350.
Total 20-inch pipe..... 34,450.
Total 24-inch pipe..... 15,477.
Total 36-inch pipe..... 1,560.

709,658 feet, or 134 miles 2,138 ft.

Total pipe on high and low service to Dec. 1, 1891—
High service.....709,658.
Low service.....340,744.

1,050,402 feet, or 198 miles 4,962 feet.

Also 4½ miles brick acqueduct 5½x6 feet, with necessary waste weirs and gate houses.

LIST OF HYDRANTS.

No.	Locations	Service.	Double or Single Serv'r	Size of Pipe.	Pressure at Hydrant.
1	Woodward and Mason	Low	Single	4	[illegible]
2	Grove and Lafayette	[illegible]	[illegible]	6	[illegible]
3	Westminster and Waverly	[illegible]	[illegible]	4	[illegible]
4	Westminster 400 ft. north of Waverly	[illegible]	[illegible]	4	[illegible]
5	Grove and Olive	[illegible]	[illegible]	4	[illegible]
6	John and Somerset	[illegible]	[illegible]	4	[illegible]
7	Olive and Somerset	[illegible]	[illegible]	4	[illegible]
8	Pine and Thirteenth	[illegible]	[illegible]	4	[illegible]
9	Thirteenth and Mississippi	[illegible]	[illegible]	4	[illegible]
10	Grove and Mississippi	[illegible]	[illegible]	6	[illegible]
11	Pine and Eleventh	[illegible]	[illegible]	4	[illegible]
12	Canada and Grove	[illegible]	[illegible]	4	[illegible]
13	Canada and Spruce	[illegible]	[illegible]	4	[illegible]
14	Grove in middle of block between Canada and Temperance	[illegible]	[illegible]	6	[illegible]
15	Jackson and Grove	[illegible]	[illegible]	4	[illegible]
16	Hubert and Twelfth	[illegible]	[illegible]	4	[illegible]
17	Hubert and Eleventh	[illegible]	[illegible]	4	[illegible]
18	Minnesota and Eleventh	[illegible]	[illegible]	4	[illegible]
19	Eleventh and Cedar	[illegible]	[illegible]	4	[illegible]
20	College and Walnuts	[illegible]	[illegible]	4	[illegible]
21	Walnuts and Tenth	[illegible]	[illegible]	4	[illegible]
22	St. Peter and Tenth	[illegible]	[illegible]	4	[illegible]
23	St. Peter and College	High	[illegible]	4	[illegible]
24	St. Peter and Summit	[illegible]	[illegible]	4	[illegible]
25	Tenth and College	Low	[illegible]	4	[illegible]
26	Tenth between St. Peter and Fort	[illegible]	[illegible]	6	[illegible]
27	St. Peter and Exchange	[illegible]	[illegible]	4	[illegible]
28	Walnuts and Exchange	[illegible]	[illegible]	4	[illegible]
29	St. Peter and Ninth	[illegible]	[illegible]	4	[illegible]
30	Walnuts and Ninth	[illegible]	[illegible]	4	[illegible]
31	Ninth and Jackson, N. E. corner	[illegible]	[illegible]	4	[illegible]
32	Ninth and Sibley	[illegible]	[illegible]	4	[illegible]
33	Ninth and Canada	[illegible]	[illegible]	4	[illegible]
34	Ninth and Pine	[illegible]	[illegible]	4	[illegible]
35	Ninth and John	[illegible]	[illegible]	4	[illegible]
36	Ninth and Locust	[illegible]	[illegible]	4	[illegible]
37	Eighth and Neill	[illegible]	[illegible]	4	[illegible]
38	Fifth and Locust	[illegible]	[illegible]	4	[illegible]
39	Eighth and Olive	[illegible]	[illegible]	4	[illegible]
40	Broadway and Eighth	[illegible]	[illegible]	4	[illegible]
41	Eighth and Warren	[illegible]	[illegible]	4	[illegible]
42	Jackson and Eighth, N. E. corner	[illegible]	Double	6	[illegible]
43	Hubert and Eighth	[illegible]	Single	4	[illegible]
44	Rice and Pierrepont	[illegible]	[illegible]	4	[illegible]
45	Rice and Hopkins	[illegible]	[illegible]	4	[illegible]
46	De Soto and Hopkins	[illegible]	[illegible]	4	[illegible]
47	Pine and Sixth avenue	[illegible]	[illegible]	4	[illegible]
48	Pine and Tuscaroras	[illegible]	[illegible]	4	[illegible]
49	Exchange and Pine	High	[illegible]	4	[illegible]
50	Exchange and Sherman	Low	[illegible]	4	[illegible]
51	Walnut and Exchange	[illegible]	[illegible]	4	[illegible]
52	Sherman and Seventh	[illegible]	[illegible]	4	[illegible]
53	Seventh and Walnut, S. E. corner	[illegible]	Double	6	[illegible]
54	Sherman and Seventh, N. E. corner	[illegible]	Single	4	[illegible]
55	Pine and Pine, N. W. corner	[illegible]	[illegible]	6	[illegible]
56	Cooper and Seventh, S. E. corner	[illegible]	[illegible]	[illegible]	[illegible]
57	Seventh, near Wholesale House	[illegible]	[illegible]	[illegible]	[illegible]
58	Seventh and Pine	[illegible]	[illegible]	[illegible]	[illegible]
59	Seventh and Pine, N. E.	[illegible]	[illegible]	[illegible]	[illegible]
60	Seventh and Neill	[illegible]	[illegible]	[illegible]	[illegible]
61	Seventh and St. Peter	[illegible]	[illegible]	[illegible]	[illegible]
62	Seventh and Wholesale, N. W. corner	[illegible]	[illegible]	[illegible]	[illegible]
63	Cable and Seventh, N. W. corner	[illegible]	[illegible]	[illegible]	[illegible]
64	Seventh and Wholesale, N. W. corner	[illegible]	[illegible]	[illegible]	[illegible]
65	Seventh and Pierce, N. W. corner	[illegible]	Double	[illegible]	[illegible]
66	Seventh and Seventh, N. E. corner	[illegible]	[illegible]	[illegible]	[illegible]
67	Seventh and Neill	[illegible]	[illegible]	[illegible]	[illegible]
68	Seventh and Wholesale, N. W. corner	[illegible]	[illegible]	[illegible]	[illegible]

LIST OF HYDRANTS—Continued.

No.	Location	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
70	Broadway and Seventh, S. W. corner	Low	Single	16	44
71	Seventh and Pine, S. W. corner	"	Double	16	43
72	Seventh and Olive, S. W. corner	"	"	16	43
73	Seventh and John, S. W. corner	"	"	16	45
74	Seventh and Locust, S. W. corner	"	"	16	46
75	Seventh and Neill	"	Single	6	49
76	Willus and Sixth	"	"	4	50
77	Sixth and Pine	"	"	4	44
78	Jackson and Sixth, N. E. corner	"	Double	12	46
79	Robert and Sixth	"	Single	6	46
80	Sixth and Minnesota	"	"	4	44
81	Sixth and Wabasha, N. W. corner	"	"	6	31
82	Fifth and Washington	"	"	4	32
83	Fifth and Wabasha, N. W. corner	"	"	6	34
84	Fifth and Cedar	"	"	4	42
85	Fifth and Minnesota	"	"	4	44
86	Robert and Fifth	"	"	6	46
87	Jackson and Fifth, S. E. corner	"	Double	12	47
88	Fourth and Sibley, N. E. corner	"	Single	6	54
89	Jackson and Fourth, S. E. corner	"	Double	12	52
90	Fourth and Robert, N. W. corner	"	Single	6	46
91	Fourth and Minnesota, N. W. corner	"	"	6	45
92	Fourth and Wabasha, N. W. corner	"	"	6	32
93	Washington and Fourth	"	"	4	33
94	Third and Exchange, N. W. corner	"	"	12	35
95	Third, bet. Exchange and Franklin	"	"	12	35
96	Third and Franklin, N. E. corner	"	"	12	34
97	Third and Washington, N. E. corner	"	"	12	34
98	Third and Market, N. E. corner	"	"	12	33
99	Washington and Eagle	"	"	4	64
100	Third and St. Peter, N. E. corner	"	"	12	33
101	Wabasha and Third, N. W. corner	"	"	6	33
102	Cedar and Third, N. W. corner	"	"	12	33
103	Third and Minnesota, N. E. corner	"	Double	12	40
104	Third and Robert, N. W. corner	"	"	12	47
105	Third and Jackson, S. E. corner	"	Single	12	54
106	Sibley and Third, S. W. corner	"	Double	6	62
107	Jackson and levee	"	Single	6	67
108	Jackson and Tenth	"	"	12	34
109	Jackson and Eleventh	"	"	12	33
110	Sibley and levee	"	"	4	69
111	St. Peter and Fifth, N. W. corner	"	"	6	33
112	Ninth and Robert	"	"	6	35
113	Tenth and Wacouta	"	"	4	41
114	Mississippi and Nash	"	"	6	35
115	Broadway and Twelfth	"	"	6	40
116	Broadway and Tenth	"	"	6	43
117	Elm and Franklin	"	"	4	37
118	Ninth and Cedar	"	"	6	35
119	Fourth and St. Peter	"	"	6	32
120	Sixth and Cedar	"	"	4	43
121	Fourth and Franklin	"	"	6	33
122	Seventh and Leech	"	"	12	35
123	Grove and John	"	"	6	40
124	Grove and Pine	"	"	6	40
125	Canada and Tenth	"	"	6	41
126	Ninth and Wacouta	"	"	6	42
127	Eighth and Temperance	"	"	4	45
128	Seventh and Willius	"	"	6	48
129	Seventh and Kittson	"	"	6	51
130	Ramsey and Leech	"	"	6	36
131	Collins and Lafayette	"	"	6	28
132	Sibley and Sixth	"	"	6	47
133	Willius and Fifth	"	"	4	58
134	Eighth and Willius	"	"	4	45
135	Sibley and Tenth	"	"	4	40
136	Pleasant, bet. Third and Chestnut	"	"	6	28
137	Pleasant and Chestnut	"	"	6	29
138	Pleasant and Walnut	"	"	6	30
139	Smith avenue, bet. Third and Chestnut	"	"	6	33

LIST OF HYDRANTS—Continued.

No.	Location	Service	Double or Single Gate	Size of Pipe	Pressure at Hydrant
[illegible]	First between Vine and Tenth	Low	Single	[illegible]	[illegible]
[illegible]	First and Vine	"	"	[illegible]	[illegible]
[illegible]	First and Sixth	"	"	[illegible]	[illegible]
[illegible]	First and [illegible]	"	"	[illegible]	[illegible]
[illegible]	Canada and Tuscarora	"	"	6	[illegible]
[illegible]	Tuscarora bet. Canada and Temperance	"	"	6	[illegible]
[illegible]	Tuscarora and Temperance	"	"	6	[illegible]
[illegible]	Mississippi and Mt. Airy	"	"	6	[illegible]
[illegible]	Mississippi and Clinton	"	"	6	[illegible]
[illegible]	Mississippi bet. Clinton and Perry Avenue	"	"	6	[illegible]
[illegible]	Mississippi and Perry Avenue	"	"	6	[illegible]
[illegible]	Pine and Nash	"	"	6	[illegible]
[illegible]	Chestnut and Pine	"	"	6	[illegible]
[illegible]	Chestnut and Pine	"	"	6	[illegible]
[illegible]	Chestnut and Gill	"	"	6	[illegible]
[illegible]	Nash and Exchange	"	"	6	[illegible]
[illegible]	Nash and Franklin	"	"	6	[illegible]
[illegible]	Washington and Sumner	"	"	6	[illegible]
[illegible]	Robert and Third	"	"	6	[illegible]
[illegible]	Canada and Sycamore	"	"	6	[illegible]
[illegible]	Sycamore and Spruce	"	"	6	[illegible]
[illegible]	Spruce and Washington	"	"	6	[illegible]
[illegible]	Spruce and Sixth	"	"	6	[illegible]
[illegible]	Collins between St. Peter and Third	"	"	6	[illegible]
[illegible]	Fourth and Washington N. W. corner	"	"	6	[illegible]
[illegible]	Sixth and Fourth S. W. corner	"	"	6	[illegible]
[illegible]	Washington and Sixth Avenue	"	"	6	[illegible]
[illegible]	Fourth and Rosalie	"	"	6	[illegible]
[illegible]	Broadway N. S. of Third	"	"	[illegible]	[illegible]
[illegible]	Third and Broadway N. E. corner	"	Double	[illegible]	[illegible]
[illegible]	Third and Rosalie	"	"	[illegible]	[illegible]
[illegible]	Third and Washington N. W. corner	"	"	[illegible]	[illegible]
[illegible]	Elm and Sixth	High	Single	6	[illegible]
[illegible]	Fourth and Market	Low	"	6	[illegible]
[illegible]	Collins and Redbud	"	"	6	[illegible]
[illegible]	Blue and Collins	"	"	6	[illegible]
[illegible]	Tenth and Pine	"	"	6	[illegible]
[illegible]	Tenth and [illegible]	"	"	6	[illegible]
[illegible]	Tenth and [illegible]	"	"	6	[illegible]
[illegible]	Canada and Farmersville	"	"	6	[illegible]
[illegible]	Fourteenth bet. Canada and Jackson	"	"	6	[illegible]
[illegible]	Dayton and Sycamore	"	"	6	[illegible]
[illegible]	Fourth and Broadway N. W. corner	"	"	6	[illegible]
[illegible]	Exchange and Sixth	"	"	6	[illegible]
[illegible]	North and Sixth	"	"	6	[illegible]
[illegible]	North and [illegible]	"	"	6	[illegible]
[illegible]	Rosalie and [illegible]	"	"	6	[illegible]
[illegible]	Rosalie and Sixth	"	"	6	[illegible]
[illegible]	Pleasant and Sycamore	"	"	6	[illegible]
[illegible]	Fourth and Jackson N. W. corner	"	"	6	[illegible]
[illegible]	John and Fourth	"	"	6	[illegible]
[illegible]	John and [illegible]	"	"	6	[illegible]
[illegible]	John and Sixth	"	"	6	[illegible]
[illegible]	Brunck and [illegible]	"	"	6	[illegible]
[illegible]	Canada and [illegible]	"	"	6	[illegible]
[illegible]	Booker and [illegible]	"	"	6	[illegible]
[illegible]	Pleasant and Sixth	"	"	6	[illegible]
[illegible]	Jackson and [illegible]	"	"	6	[illegible]
[illegible]	Jackson and [illegible]	"	"	6	[illegible]
[illegible]	Wilson and [illegible]	"	"	6	[illegible]
[illegible]	Wilson and [illegible] S. E. corner	"	"	6	[illegible]
[illegible]	[illegible]	"	"	[illegible]	[illegible]
[illegible]	Wilson and Sixth N. E. corner	"	"	6	[illegible]
[illegible]	Wilson and [illegible] N. E. corner	"	"	6	[illegible]
[illegible]	[illegible] and Broadway N. W. corner	"	"	6	[illegible]
[illegible]	Sixth and Broadway	"	"	6	[illegible]
[illegible]	[illegible] and [illegible]	"	"	6	[illegible]
[illegible]	[illegible] N. E. corner	"	"	6	[illegible]
[illegible]	[illegible]	"	"	6	[illegible]
[illegible]	[illegible] and [illegible]	"	"	[illegible]	[illegible]

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrants.
210	Cedar and Exchange	Low	Single	12	32
211	Ninth and Minnesota	"	"	6	37
212	Wilkin and Smith	"	"	6	37
213	Fifth and Neill	"	"	6	59
214	Kittson and Fifth	"	"	6	61
215	Kittson and Sixth	"	"	6	56
216	Sixth and Neill	"	"	4	53
217	Otsego and Mt. Ida	"	"	6	15
218	Bradley and Woodward	"	"	6	41
219	Bradley and North	"	"	6	34
220	Hopkins and Bradley	"	"	6	36
221	Smith Avenue and Chestnut	"	"	6	34
222	Bedford and Beaumont	"	"	6	24
223	Bedford and Minnehaha	"	"	6	18
224	Thompson and Pleasant	"	"	6	34
225	Thompson and Ramsey	"	"	6	35
226	Smith avenue and Smith street	"	"	6	34
227	Fourth and Cedar N. W. corner	"	"	6	39
228	Eighth and Minnesota	"	"	4	40
229	Beaumont and Bradley	"	"	6	22
230	Beaumont and DeSoto	"	"	6	21
231	Burr and Beaumont	"	"	6	19
232	Burr and Minnehaha	"	"	6	15
233	Burr and Fauquier	"	"	6	18
234	Smith avenue and Seventh street	"	"	6	34
235	Fourth and Pine	"	"	12	59
236	Fourth and Olive	"	"	12	64
237	Smith and Seventh	"	"	6	34
238	Fourth and Exchange	"	"	6	34
239	McBoal and Seventh	"	"	6	33
240	St. Peter and Sixth	"	"	6	33
241	Prince and Pine	"	"	6	65
242	Prince and Olive	"	"	6	65
243	Prince and John	"	"	6	66
244	Mt. Airy and L'Orient N. E. corner	"	"	6	21
245	Smith avenue and Fifth	"	"	6	31
246	Smith avenue and Sixth	"	"	6	29
247	Smith avenue and College	"	"	6	18
248	Douglas and Seventh	"	"	6	34
249	Goodrich and Seventh	"	"	6	34
250	Goodrich and Smith avenue	"	"	6	38
251	Goodrich and Leech	"	"	6	41
252	Capitol and Mississippi	High	"	6	75
253	Genesee and Mississippi	"	"	6	79
254	Granite and Mississippi	"	"	6	84
255	Second and Robert	Low	"	6	57
256	Pleasent and Ramsey	"	"	6	32
257	Ramsey and Douglas	"	"	6	34
258	Sherman and Franklin	"	"	6	38
259	Chestnut and Exchange	"	"	6	49
260	Exchange and Eagle	"	"	4	50
261	Williams and Pine	High	"	6	73
262	Pine 200 feet South of Williams	"	"	6	60
263	Topping and Como	"	"	6	56
264	Capitol and Western	"	"	6	54
265	Blair and Western	"	"	6	57
266	Thomas and Western	"	"	6	55
267	University and Western	"	"	12	56
268	Aurora and Western	"	"	6	54
269	Fuller and Western	"	"	6	52
270	Martin and Western	"	"	6	51
271	St. Anthony and Western	"	"	6	54
272	Rondo and Western	"	"	6	57
273	Carroll and Western	"	"	6	46
274	Iglehart and Western	"	"	6	36
275	Marshall and Western	"	"	6	32
276	Dayton and Western	"	"	12	31
277	Western and Selby	"	"	12	32
278	Western and Laurel	"	"	12	31
279	Western and Ashland	"	"	12	33

LIST OF HYDRANTS---Continued.

No.	Location.	Service.	Double or Single Steam'r.	Size of Pipe.	Pressure at Hydrant.
280	Western and Holly	High	Single	12	34
281	Western and Portland	"	"	12	34
282	Summit and Portland	"	"	12	34
283	Summit and Arundel	"	"	12	31
284	Summit and Mackubin	"	"	12	30
285	Summit and Kent	"	"	12	35
286	Summit and Oakland	"	"	12	35
287	Holly and Dale	"	"	6	36
288	Holly and Kent	"	"	6	34
289	Holly and Mackubin	"	"	6	32
290	Holly and Arundel	"	"	6	33
291	Ashland and Arundel	"	"	6	32
292	Ashland and Mackubin	"	"	6	30
293	Ashland and Kent	"	"	6	33
294	Ashland and Dale	"	"	6	37
295	Laurel and Dale, N. E. corner	"	"	6	35
296	Laurel and Kent	"	"	6	31
297	Laurel and Mackubin, N. W. corner	"	"	6	30
298	Laurel and Arundel	"	"	6	30
299	Dayton and Dale	"	"	12	30
300	Dayton and Kent	"	"	12	28
301	Dayton and Mackubin	"	"	12	29
302	Dayton and Arundel	"	"	12	33
303	Dayton and Virginia	"	"	12	30
304	Dayton and Farrington	"	"	12	30
305	Dayton, bet. Summit and Farrington	"	"	12	31
306	Summit and Dayton	"	"	6	43
307	Summit and Selby	"	"	6	37
308	Summit, head of Walnut	"	"	6	37
309	Summit and Nina	"	"	6	33
310	Summit and Farrington	"	"	6	31
311	Summit and Virginia	"	"	6	33
312	Farrington and Laurel	"	"	6	32
313	Farrington and Selby avenue	"	"	6	31
314	Selby and Nina	"	"	6	32
315	Nina and Laurel	"	"	6	32
316	Westminster, 200 ft. south of G. N. R'y	Low	"	6	30
317	Thirteenth and Broadway	"	"	6	30
318	Temperance and Norris	"	"	4	37
319	Banfil and Seventh	"	"	4	33
320	Goodhue and Seventh, N. E. corner	"	"	6	33
321	Yankee and Seventh	"	"	4	34
322	Western and Seventh	"	"	6	35
323	St. Clair and Seventh	"	"	6	34
324	Richmond and Seventh	"	"	6	34
325	Seventh and Colbourne	"	"	16	36
326	Chestnut and Franklin	"	"	6	52
327	Twelfth and Jackson	"	"	20	32
328	Twelfth and Minnesota	"	"	20	29
329	Twelfth and Cedar	"	"	20	27
330	Cedar and Summit	"	"	6	23
331	Chestnut and Washington	"	"	6	62
332	Laurel and Virginia	High	"	6	32
333	Selby and Virginia	"	"	6	32
334	Mackubin and Laurel, S. W. corner	"	"	6	30
335	Portland and Arundel	"	"	6	32
336	Portland and Mackubin	"	"	6	29
337	Portland and Kent	"	"	6	34
338	Portland and Dale	"	"	6	34
339	Selby and Arundel	"	"	6	33
340	Selby and Mackubin	"	"	6	29
341	Selby and Kent	"	"	6	29
342	Selby and Dale	"	"	6	31
343	Carroll and Arundel	"	"	6	36
344	Carroll and Mackubin	"	"	6	34
345	Carroll and Kent	"	"	6	30
346	Kent and Iglehart	"	"	4	29
347	Marshall and Dale	"	"	6	31
348	Marshall and Kent	"	"	6	27
349	Marshall and Mackubin	"	"	6	31

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
350	Rondo and Arundel	High	Single	6	55
351	Rondo and Mackubin	"	"	6	42
352	Iglehart and Arundel	"	"	6	31
353	Iglehart and Mackubin	"	"	6	33
354	Marshall and Arundel	"	"	6	31
355	McBoal and Douglas	Low	"	6	33
356	Douglas and Harrison	"	"	6	33
357	Summit and Third	High	"	12	50
358	Summit and Nelson	"	"	12	52
359	College and Sixth	"	"	6	70
360	Nelson and Virginia	"	"	6	30
361	Nelson and Farrington	"	"	6	31
362	Nelson and Louis	"	"	6	43
363	Nelson and Summit place	"	"	6	48
364	Carroll and Virginia	"	"	6	48
365	Carroll and Farrington	"	"	6	50
366	Carroll and Louis	"	"	6	56
367	Carroll and Summit place	"	"	6	60
368	Carroll and Ravoux	"	"	6	63
369	Park Place park	"	"	4	67
370	Iglehart and Virginia	"	"	6	39
371	Iglehart and Farrington	"	"	6	40
372	Iglehart and Louis	"	"	6	50
373	Douglas and Lisbon	Low	"	6	35
374	Iglehart and St. Peter	High	"	6	65
375	Iglehart and Wabasha	"	"	6	72
376	Iglehart and Summit place	"	"	6	54
377	Iglehart and Ravoux	"	"	6	63
378	Iglehart and Rice	"	"	6	68
379	Rice and Rondo	"	"	16	65
380	Rice and St. Anthony	"	"	16	57
381	Rice and Martin	"	"	16	58
382	Rice and Fuller	"	"	16	57
383	Rice and Aurora	"	"	16	57
384	Rice and University	"	"	20	54
385	Rice and Ellen	"	"	20	53
386	Rice and Charles	"	"	20	55
387	Rice and Edmund	"	"	20	56
388	Rice and Como	"	"	12	56
389	Tilton and St. Peter	"	"	6	61
390	Smith avenue and Ramsey	Low	"	6	35
391	St. Peter and Martin	High	"	6	60
392	Martin and Park	"	"	6	62
393	Central and Wabasha	"	"	6	66
394	Tilton and Wabasha	"	"	6	67
395	Central and Cedar	"	"	6	60
396	Aurora and Cedar	"	"	6	53
397	Aurora and Robert	"	"	6	67
398	Smith avenue and Sherman	Low	"	6	36
399	Bradley and Seventh, N. W. corner	"	"	6	40
400	Broadway and Fourteenth	"	"	4	38
401	Summit and Dale	High	"	12	33
402	Seventh and Brook	Low	"	6	49
403	Tenth and Cedar, N. W. corner	"	"	20	29
404	Grand and Lawton	High	"	6	34
405	Grand and Floral	"	"	6	31
406	Grand and Oakland	"	"	6	46
407	Grand and Dale	"	"	6	38
408	Grand and St. Albans	"	"	6	37
409	Valley and Broadway	"	"	16	86
410	Grand and Grotto	"	"	6	33
411	Grand and Avon	"	"	6	31
412	Grand and Victoria	"	"	6	32
413	University and Marion	"	"	12	59
414	University and Gaultier	"	"	12	57
415	University and Farrington	"	"	12	57
416	University and Virginia	"	"	12	57
417	Marshall and St. Albans	"	"	12	35
418	University and Arundel	"	"	12	53
419	Dayton and St. Albans	"	"	6	33

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Strain'r	Size of Pipe.	Pressure at Hydrant.
420	Dayton and Grotto	High	Single	6	22
421	Dayton and Avon	"	"	6	21
422	Dayton and Fisk	"	"	6	24
423	St. Peter and Aurora	"	"	6	25
424	St. Peter and University	"	"	6	22
425	Park and University	"	"	6	22
426	Cedar and University	"	"	6	22
427	Cedar and Sherburne	"	"	6	22
428	Sherburne 250 feet E. of Cedar	"	"	4	22
429	Hoffman and Seventh	"	"	6	22
430	Fourth 400 feet W. of Maria	"	"	6	22
431	Maria and Seventh	"	"	6	22
432	Maria and Sixth	"	"	6	22
433	Maria and Fifth	"	"	6	22
434	Maria and Fourth	"	"	6	22
435	Maria and Third	"	"	6	22
436	Maria and Conway	"	"	6	22
437	Maria and Ravine	"	"	6	22
438	Maria and Euclid	"	"	6	22
439	Maria and Hudson	"	"	6	22
440	Bates and Plum	"	"	12	22
441	Bates and Hudson	"	"	12	22
442	Bates and Euclid	"	"	12	22
443	Bates and Ravine	"	"	12	22
444	Bates and Conway	"	"	12	22
445	Bates and Third	"	"	12	22
446	Bates and Fourth	"	"	12	22
447	Bates and Fifth	"	"	12	22
448	Bates and Sixth	"	"	12	22
449	Bates and Seventh	"	"	12	22
450	Fifth and Maple	"	"	6	22
451	Third and Maple	"	"	6	22
452	Hudson and Maple	"	"	6	22
453	Valley and Canada	"	"	12	22
454	Seventh and Maple	"	"	12	22
455	Seventh and Rose, N. W. corner	"	"	12	22
456	Seventh and Margaret	"	"	12	22
457	Seventh and Beech	"	"	12	22
458	Goodhue and Dousman	Low	"	6	22
459	Goodhue and Cliff	"	"	6	22
460	Grove and Colborne	"	"	6	22
461	Colborne and Jefferson	"	"	6	22
462	Duke and Seventh	"	"	6	22
463	Seventh and Minnehaha, N. W. corner	"	"	12	22
464	Seventh and Stanley	"	"	12	22
465	Seventh and Forest	High	"	12	22
466	Nash and L'Orient	"	"	6	22
467	Jessie and Fauquier	"	"	6	22
468	Seventh and Erie	"	"	12	22
469	Seventh and Fauquier	"	"	12	22
470	Seventh and Cypress	"	"	12	22
471	Seventh and Ross	High	"	12	22
472	Seventh and Earl	"	"	12	22
473	Ross and Earl	"	"	6	22
474	Edmund and Marion	"	"	6	22
475	Fauquier and Cypress	"	"	6	22
476	Fauquier and Earl	"	"	6	22
477	Fauquier and Payne	Low	"	12	22
478	Fauquier and Ridgewood	"	"	12	22
479	Fauquier and Bradley	"	"	12	22
480	De Soto and Fauquier	"	"	12	22
481	De Soto and Minnehaha	"	"	12	22
482	Fifth 100 feet W. of Maria	High	"	6	22
483	Fauquier and Norma	"	"	6	22
484	Fauquier and Minnehaha	"	"	6	22
485	Fauquier and Arcade	"	"	6	22
486	Fauquier and Wheeler and Dale	"	"	6	22
487	Fauquier and Dale	"	"	6	22
488	Hoffman and Sixth	"	"	6	22
489	Minnehaha and Norma	"	"	6	22

LIST OF HYDRANTS---Continued.

No.	Location.	Service.	Double or Single Steam'r.	Size of Pipe.	Pressure at Hydrant.
490	Ninth and Broadway	Low	Single	6	44
491	Oneida and Seventh	"	"	6	30
492	Franklin and Fifth	"	"	4	33
493	Eleventh and Olive	"	"	4	41
494	Martin and Arundel	High	"	6	48
495	Lincoln and St. Albans	"	"	6	30
496	Lincoln and Grotto	"	"	6	33
497	Lincoln and Avon	"	"	6	33
498	Fuller and Arundel	"	"	6	46
499	Fuller and Mackubin	"	"	6	43
500	Fuller and Kent	"	"	6	40
501	Goodhue and Ann	Low	"	6	33
502	Goodhue and Western	"	"	6	32
503	Goodhue and Richmond	"	"	6	31
504	Portland and St. Albans	High	"	6	35
505	Aurora and Kent	"	"	6	46
506	Aurora and Mackubin	"	"	6	44
507	Aurora and Arundel	"	"	6	50
508	Holly and St. Albans	"	"	6	34
509	Holly and Grotto	"	"	6	32
510	Holly and Avon	"	"	6	30
511	Martin and Ravoux	"	"	6	60
512	Martin and Summit Place	"	"	6	60
513	Central and St. Peter	"	"	4	60
514	Maria and Eighth	"	"	6	66
515	Bradley and Seventh, S. E. corner	Low	"	6	42
516	Ashland and St. Albans	High	"	6	36
517	Ashland and Grotto	"	"	6	33
518	Ashland and Avon	"	"	6	34
519	Goodrich and Dousman	Low	"	12	33
520	Goodrich and Garfield	"	"	12	32
521	Goodrich and Western	"	"	12	32
522	Eichenwald and Sixth	High	"	6	41
523	Eichenwald and Seventh	"	"	6	42
524	Sinnen and Sixth	"	"	6	36
525	Hague and St. Albans	"	"	6	34
526	Hague and Grotto	"	"	6	32
527	Hague and Avon	"	"	6	31
528	Hague and Fisk	"	"	6	31
529	Selby and St. Albans	"	"	6	33
530	Reaney and Forest	"	"	6	51
531	Reaney and Cypress	"	"	6	56
532	Reaney and Earl	"	"	6	59
533	Irvine Park, north side	Low	"	4	53
534	Irvine Park, south side	"	"	4	43
535	Marshall and Victoria, N. E. corner	High	"	12	34
536	Marshall and Fisk	"	"	12	38
537	Marshall and Avon	"	"	12	32
538	Marshall and Grotto	"	"	12	34
539	Earl and Minnehaha	"	"	12	62
540	Earl and Beech	"	"	12	63
541	Reaney and Frank	"	"	6	56
542	Laurel and Dale, N. W. corner	"	"	6	35
543	Laurel and St. Albans	"	"	6	35
544	Laurel and Grotto	"	"	6	30
545	Laurel and Avon	"	"	6	30
546	Garfield and Harrison	Low	"	6	35
547	Banfil and Smith avenue	"	"	4	39
548	Carroll and Dale	High	"	6	26
549	Fuller and Marion	"	"	6	59
550	Fuller and Jay	"	"	6	59
551	Fuller and Farrington	"	"	6	58
552	Fuller and Virginia	"	"	6	55
553	Summit Place and St. Anthony	"	"	6	61
554	Cedar and Viola	"	"	6	37
555	Cedar and Como	"	"	6	39
556	Viola and Jackson	"	"	6	41
557	Seventh and Frank, N. W. corner	"	"	16	62
558	Seventh and Frank, N. E. corner	"	"	16	62
559	Seventh and Duluth	"	"	16	60

LIST OF HYDRANTS---Continued.

No.	Location.	Service.	Double or Single Stream.	Size of Pipe.	Pressure at Hydrant.
560	Rice and Lafond	High	Single	12	55
561	Rice and Arch	"	"	12	56
562	Rice and Pennsylvania	"	"	12	57
563	Rondo and Ravoux	"	"	6	68
564	Rondo and Summit place	"	"	6	62
565	Williams and Olive	"	"	6	79
566	Olive and Peynnsivania	"	"	6	58
567	Rondo and Louis	"	"	6	60
568	Rondo and Farrington	"	"	6	58
569	Ninth and Smith avenue	Low	"	6	23
570	Franklin and Sixth	"	"	4	33
571	Rondo and Virginia	High	"	6	57
572	Mendota and Beech	"	"	12	54
573	Kittson and Fourth	Low	"	6	68
574	Valley and Warren	High	"	16	51
575	Robert and Valley	"	"	6	.....
576	Mendota and Dawson	"	"	12	44
577	Mendota and Francis	"	"	12	40
578	Mendota and East Fourth	"	"	12	48
579	Mt. Airy and Broadway	"	"	6	56
580	Fourth and Nell	Low	"	12	67
581	Fourth and Willius	"	"	12	66
582	Fourth and Locust	"	"	12	66
583	Mendota and Fremont	High	"	12	50
584	Mendota and Conway	"	"	12	53
585	Euclid and Forrest	"	"	6	57
586	Euclid and Mendota	"	"	6	55
587	Third and Cypress	"	"	6	47
588	Third and Forrest	"	"	6	50
589	Third and Mendota	"	"	6	52
590	Third and Arcade	"	"	6	44
591	Hudson and Mendota	"	"	12	49
592	Mt. Airy and Linden	"	"	6	40
593	Mt. Airy and Warren	"	"	6	38
594	Maple and Euclid	"	"	6	48
595	Mt. Airy and Robert	"	"	6	.....
596	Webster and Palace	Low	"	6	34
597	Maple and Ravine	High	"	6	50
598	Fourth and Broadway. N. E. corner	Low	"	12	61
599	Maple and Conway	High	"	6	49
600	Viola and Brewster	"	"	6	38
601	Maple and Fourth	"	"	6	41
602	Viola and Park	"	"	6	56
603	Maple and Sixth	"	"	6	50
604	Margaret and Arcade	"	"	6	41
605	Margaret and Mendota	"	"	6	52
606	Sherburne and Marion	"	"	6	58
607	Granite and Courtland	"	"	6	60
608	Granite and Agate	"	"	6	63
609	Granite and Beaver	"	"	6	74
610	Margaret and Forrest	"	"	6	49
611	Sherburne and Gaultier	"	"	6	58
612	Sherburne and Farrington	"	"	6	57
613	Sherburne and Virginia	"	"	6	57
614	Margaret and Cypress	"	"	6	46
615	Margaret and Earl	"	"	6	62
616	Mississippi and Case	Low	"	6	30
617	Mississippi and Jenks	"	"	6	28
618	Mississippi and Lawson	"	"	6	27
619	Mississippi and Cook	"	"	6	24
620	Mississippi and Magnolia	"	"	6	20
621	Mississippi and Jessamine	"	"	6	20
622	Robert and Thirteenth	"	"	6	29
623	Capitol and Buffalo	High	"	6	64
624	Capitol and Elk	"	"	6	67
625	Capitol and Courtland	"	"	6	68
626	University and Mackubin	"	"	12	51
627	University and Kent	"	"	12	48
628	University and Dale	"	"	12	45
629	Central avenue north of Central park	"	"	6	73

LIST OF HYDRANTS---Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
630	Central Drive East and Central Avenue..	High	Single	4	84
631	Genesee and Buffalo	"	"	6	65
632	Sherburne and Western	"	"	6	58
633	Sherburne and Arundel	"	"	6	57
634	Sherburne and Mackubin	"	"	6	53
635	Sherburne and Kent	"	"	6	49
636	Aurora and Virginia	"	"	6	56
637	Fourteenth and Robert	Low	"	6	30
638	Payne and Minnehaha	"	"	6	21
639	Reaney and Payne	"	"	6	17
640	Reaney and Edgerton	"	"	6	14
641	Eagle and Spring	"	"	6	68
642	Charles and Marion	High	"	6	58
643	Charles and Gaultier	"	"	6	57
644	Charles and Elfelt	"	"	6	56
645	Charles and Farrington	"	"	6	56
646	Charles and Virginia	"	"	6	56
647	Charles and Western	"	"	6	57
648	Virginia and Marshall	"	"	4	31
649	Decatur and Bedford	Low	"	6	27
650	Decatur and Edgerton	"	"	6	43
651	Beaumont and Preble	"	"	6	27
652	Oakland and Lincoln	High	"	6	47
653	Oakland and Floral	"	"	6	54
654	Oakland and Lawton	"	"	6	65
655	Oakland and Western	"	"	6	81
656	Wabasha levee	Low	"	6	64
657	Wabasha and Fillmore	"	"	6	67
658	Wabasha and Fairfield	"	"	6	68
659	Wabasha and Indiana, S. W. corner	"	"	6	69
660	Wabasha and Chicago	"	"	6	68
661	Wabasha and Channel	"	"	6	67
662	Toronto and Seventh	"	"	6	34
663	James and Seventh	"	"	6	34
664	Randolph and Seventh	"	"	6	33
665	Warsaw and Seventh	"	"	6	32
666	Audubon and Seventh	"	"	6	32
667	Summit and St. Albans	High	"	12	36
668	Carroll and Victoria	"	"	6	45
669	Carroll and Milton	"	"	6	39
670	Western and St. Clair	Low	"	6	37
671	Armstrong and Seventh	"	"	6	33
672	Bay and Seventh	"	"	6	32
673	Lee and Seventh	"	"	6	33
674	Jefferson and Oneida	"	"	12	35
675	Jefferson and Webster	"	"	12	34
676	Webster 300 feet N. of Jefferson	"	"	6	30
677	Maria and Plum	High	"	6	73
678	Maria and Cherry	"	"	6	72
679	Robert 200 feet north of University	"	"	6	67
680	Grotto and Summit	"	"	6	32
681	Grotto and Portland	"	"	6	31
682	Hoffman and Cherry	"	"	6	77
683	Minnesota and Seventh, S. E. corner	Low	"	6	44
684	Dayton and Victoria	High	"	6	32
685	Minnesota and Fourth, S. E. corner	Low	Double	6	45
686	Selby and Grotto	High	Single	6	33
687	Selby and Avon	"	"	6	31
688	Selby and Fisk	"	"	6	32
689	Selby and Victoria	"	"	6	31
690	Hoffman and McLean	"	"	6	76
691	Hoffman and Lizzie	"	"	6	74
692	Hoffman and River	"	"	6	73
693	Portland and Avon	"	"	6	29
694	Margaret and Hope	"	"	6	43
695	Margaret and Greenbrier	"	"	6	46
696	Hoffman and Clermont	"	"	6	72
697	Cherry, 200 feet south of Hoffman	"	"	4	89
698	Ramsey and Western	"	"	6	55
699	Oakland and Ramsey	"	"	6	86

LIST OF HYDRANTS---Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
700	Fourth and Arcade	High	Single	6	44
701	Western and Milwaukee Short Line	Low	"	6	41
702	Goodrich, 750 ft. east of Dale	High	"	6	37
703	Dale and Goodrich	"	"	12	37
704	Goodrich and Richmond	Low	"	6	83
705	Ninth and Olive	"	"	6	45
706	Ninth and Neill	"	"	4	43
707	Sixth and Hope	High	"	6	40
708	Martin and Kent	"	"	6	44
709	Jackson and Valley	"	"	6	48
710	Martin and Mackubin	"	"	6	40
711	Greenbrier and North	"	"	12	53
712	Greenbrier and Maury	"	"	12	49
713	Sherburne and Park	"	"	6	51
714	Third and Jackson, N. W. corner	Low	Double	6	53
715	St. Anthony and Dale	High	Single	6	30
716	St. Anthony and Kent	"	"	6	39
717	Arcade and Minnehaha	"	"	12	53
718	St. Anthony and Mackubin	"	"	6	44
719	St. Anthony and Arundel	"	"	6	46
720	St. Anthony and Virginia	"	"	6	53
721	St. Anthony and Farrington	"	"	6	57
722	Wabasha and Park	"	"	4	59
723	St. Anthony and Jay	"	"	6	61
724	St. Anthony and Louis	"	"	6	60
725	St. Anthony and Ravoux	"	"	6	61
726	Sherburne and Brewster	"	"	6	42
727	Brewster and University	"	"	6	48
728	Harrison and Western	Low	"	6	33
729	Martin and Virginia	High	"	6	54
730	Martin and Farrington	"	"	6	57
731	Pennsylvania and L'Orient	Low	"	6	38
732	Martin and Jay	High	"	6	50
733	Martin and Louis	"	"	6	50
734	Glencoe and L'Orient	Low	"	6	31
735	Glencoe and Columbia	"	"	6	27
736	Arcade and Wells	High	"	12	56
737	Arcade and York	"	"	12	50
738	Arcade and Sims	"	"	12	46
739	Arcade and Case	"	"	12	48
740	Arcade and Jenks	"	"	12	46
741	Arcade and Lawson	"	"	12	45
742	Arcade and Cook	"	"	12	42
743	Arcade and Magnolia	"	"	12	43
744	Arcade, in front of Bohn Mfg. Co	"	"	12	60
745	Farquier and Weide	"	"	6	58
746	Reaney and Weide	"	"	6	62
747	Reaney and Arcade	"	"	6	56
748	Edmund and Gaultier	"	"	6	57
749	Edmund and Elfelt	"	"	6	56
750	Edmund and Farrington	"	"	6	55
751	Edmund and Virginia	"	"	6	55
752	Edmund and Western	"	"	6	56
753	Como and Thomas	"	"	20	56
754	Como and Claghorn	"	"	20	58
755	Como and Lafond	"	"	20	59
756	Como and Gaultier	"	"	20	61
757	Aurora and Marion	"	"	6	59
758	Aurora and Jay	"	"	6	57
759	Aurora and Farrington	"	"	6	59
760	Preble and Minnehaha	Low	"	6	20
761	Payne and Beaumont	"	"	6	27
762	Thomas and Arundel	High	"	6	58
763	Thomas and Mackubin	"	"	6	57
764	Conway and Arcade	"	"	6	49
765	Conway and Forrest	"	"	6	51
766	Thomas and Kent	"	"	6	52
767	Thomas and Dale	"	"	6	47
768	Francis and Arcade	"	"	6	45
769	River and Maria	"	"	4	68

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
770	Duke and Jefferson	Low	"	6	37
771	Duke and Cascade	"	"	6	44
772	Blair and Arundel	High	"	6	56
773	Blair and Mackubin	"	"	6	57
774	Blair and Kent	"	"	6	55
775	Blair and Dale	"	"	6	52
776	Iglehart and Dale	"	"	6	30
777	Fairfield and Starkey	Low	"	6	69
778	Fairfield and Custer	"	"	6	68
779	Jackson and Winter	High	"	12	53
780	Jackson and Arch	"	"	12	56
781	Jackson and Pennsylvania	"	"	12	60
782	Fairfield and Hubert	Low	"	6	67
783	Fairfield and Robert	"	"	6	65
784	Fairfield and Eaton	"	"	6	66
785	Fairfield and Eva	"	"	6	67
786	Fairfield and Robertson	"	"	6	68
787	Fairfield and State	"	"	6	69
788	Como and Elfelt	High	"	20	60
789	Como and Van Buren	"	"	20	61
790	Como and Minnehaha	"	"	20	59
791	Como and Virginia	"	"	20	54
792	Como and Western	"	"	20	51
793	Indiana, between Wabasha and Starkey	Low	"	12	69
794	Front and Dale, N. E. Corner	High	"	12	41
795	Front and Kent	"	"	12	51
796	Front and Mackubin	"	"	12	58
797	Front and Arundel	"	"	12	53
798	Front and Western	"	"	12	45
799	Randolph and Bay	Low	"	12	31
800	Randolph and View	"	"	12	30
801	Front and Hand	High	"	12	42
802	Front and Farrington	"	"	12	44
803	Front and Matilda	"	"	12	47
804	Front and Gaultier	"	"	12	52
805	Fillmore and State	Low	"	6	60
806	Front and Marion	High	"	12	59
807	Front and Woodbridge	"	"	12	60
808	Front and Albemarle	"	"	12	60
809	Front and Rice	"	"	12	60
810	Lincoln and Victoria	"	"	6	31
811	Lincoln and Milton	"	"	6	34
812	Grand and Milton	"	"	6	33
813	Hague and Victoria	"	"	6	32
814	Dousman and Yankee	Low	"	6	38
815	Indiana and State	"	"	16	69
816	Indiana and Robertson	"	"	16	68
817	Indiana and Eva	"	"	16	68
818	Eaton and Indiana	"	"	16	68
819	Indiana and Robert	"	"	16	68
820	Indiana and Hubert	"	"	16	68
821	Indiana and Custer	"	"	16	68
822	Indiana and Starkey	"	"	16	69
823	Milwaukee freight yard	"	"	16	69
824	Summit and Minnesota	"	"	6	27
825	Wabasha and Wood	"	"	6	64
826	Wabasha and Colorado	"	"	6	57
827	Wabasha and Delos	"	"	6	53
828	Isabel and State	"	"	12	53
829	Isabel and Greenwood	"	"	12	49
830	Isabel and Clinton	"	"	12	52
831	Isabel and Robert	"	"	12	53
832	Isabel and Livingston	"	"	12	54
833	Isabel and Starkey	"	"	12	54
834	Isabel and Wabasha	"	"	12	49
835	Isabel and Goff	"	"	12	40
836	Isabel and Hall	"	"	12	22
837	Isabel and Stryker	"	"	12	20
838	Isabel and Winslow	"	"	12	21
839	Concord and Bancroft	"	"	12	54

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Stream.	Size of Pipe.	Pressure at Hydrant.
[illegible]	Concord and Anita	Low	Single	12	53
[illegible]	Concord and Ada	-	-	12	50
[illegible]	Concord and State	-	-	12	60
[illegible]	Concord and Noble	-	-	12	50
[illegible]	Concord and Winnifred	-	-	12	53
[illegible]	Concord and Congress	-	-	12	54
[illegible]	Concord and Omega	-	-	12	56
[illegible]	Joan and Williams	-	-	6	56
[illegible]	Western and Superior	-	-	6	52
[illegible]	Robert and Fillmore	-	-	6	62
[illegible]	Congress and Robert	-	-	6	54
[illegible]	Congress and Clinton	-	-	6	52
[illegible]	Congress and Greenwood	-	-	6	59
[illegible]	Congress and State, N. W. corner	-	-	6	59
[illegible]	Minnehaha and Edgerton	-	-	6	59
[illegible]	Noble and State	-	-	6	52
[illegible]	Noble and Ada	-	-	6	53
[illegible]	Noble and Anita	-	-	6	58
[illegible]	Noble and Bancroft	-	-	6	56
[illegible]	Winnifred and State	-	-	6	53
[illegible]	Winnifred and Ada	-	-	6	52
[illegible]	Winnifred and Anita	-	-	6	52
[illegible]	Winnifred and Bancroft	-	-	6	52
[illegible]	Congress and State, N. E. corner	-	-	6	59
[illegible]	Congress and Ada	-	-	6	59
[illegible]	Congress and Anita	-	-	6	59
[illegible]	Congress and Dunsmuir Terrace	-	-	6	59
[illegible]	Congress and Bancroft	-	-	6	59
[illegible]	Hoffman and Short	High	-	6	72
[illegible]	Sixth and Washington	Low	-	6	52
[illegible]	Lee and Drake	-	-	6	59
[illegible]	Lee and Warsaw	-	-	6	59
[illegible]	Lee and Bay	-	-	6	55
[illegible]	Western and Bandel	-	-	6	52
[illegible]	Von Minden and Dousman	-	-	6	55
[illegible]	Von Minden and Aza	-	-	6	52
[illegible]	Minnehaha and Bradley	-	-	6	57
[illegible]	Fillmore and Stanley	-	-	6	60
[illegible]	Brewster and Comer	High	-	6	41
[illegible]	Mt. Airy and Lowell, N. W. corner	-	-	6	50
[illegible]	Sherburne and Dale	-	-	6	46
[illegible]	Fillmore and Custer	Low	-	6	60
[illegible]	Fillmore and Hubert	-	-	6	63
[illegible]	Fillmore and Eason	-	-	6	62
[illegible]	Fillmore and Eva	-	-	6	65
[illegible]	Fillmore and Robertson	-	-	6	67
[illegible]	Woodward and Bare	-	-	6	44
[illegible]	Wabash and Congress	-	-	6	46
[illegible]	Wabash and Goff	-	-	6	41
[illegible]	Congress and Omega	-	-	6	49
[illegible]	Kearney and Wood	High	-	6	79
[illegible]	Kearney and Greenwood	-	-	6	72
[illegible]	Euclid and Congress	-	-	6	72
[illegible]	Euclid and Bay	-	-	6	72
[illegible]	Livingston and Wood	Low	-	6	57
[illegible]	Colorado and Dale	-	-	6	52
[illegible]	Colorado and Livingston	-	-	6	52
[illegible]	Colorado and Stanley	-	-	6	54
[illegible]	Colorado and Clinton	-	-	6	55
[illegible]	Stanley and Wood	-	-	6	57
[illegible]	Clinton and St. Louis	High	-	6	38
[illegible]	Clinton and Clifton	-	-	6	38
[illegible]	Clinton and Miller	-	-	6	38
[illegible]	Clinton and Park	-	-	6	38
[illegible]	Concord and Brown	Low	-	12	57
[illegible]	Concord and Brown	-	-	12	60
[illegible]	Lockhart and St. Louis	High	-	6	38
[illegible]	Lockhart and Clifton	-	-	6	33
[illegible]	Lockhart and Avon	-	-	6	38
[illegible]	Lockhart and Park	-	-	6	40

LIST OF HYDRANTS.—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
910	Iglehart and Victoria	High	Single	6	39
911	Winnifred and Clinton	Low	"	6	52
912	Winnifred and Greenwood	"	"	6	51
913	Lafayette and Woodward	"	"	16	39
914	Isabel and Bidwell	"	"	12	22
915	Isabel and Bellows	"	"	12	21
916	Summit and Avon	High	"	12	30
917	Summit and Victoria	"	"	12	31
918	Winnifred and Brown	Low	"	6	50
919	Winnifred and Andrew	"	"	6	58
920	Ross and Frank	High	"	6	61
921	Ross and Duluth	"	"	6	59
922	Ross and Atlantic	"	"	6	55
923	Summit and Milton	"	"	12	34
924	Summit and Chatsworth	"	"	12	33
925	Delos and Greenwood	Low	"	6	49
926	Delos and Clinton	"	"	6	51
927	Delos and S. Robert	"	"	6	52
928	Western and Sturgis	"	"	6	34
929	Summit and Oxford	High	"	12	32
930	Summit and Lexington	"	"	12	33
931	Beech and Frank	"	"	6	50
932	Beech and Duluth	"	"	6	51
933	Delos and Starkey	Low	"	6	57
934	Delos and Livingston	"	"	6	54
935	Jackson and Fifth, N. E. corner	"	Double	12	47
936	Jackson and Sixth, S. E. corner	"	"	12	46
937	Jackson and Seventh, S. E. corner	"	"	12	45
938	Jackson and Eighth, S. E corner	"	"	12	44
939	Jackson and Ninth, S. E. corner	"	Single	12	39
940	Summit and Dunlap	High	"	12	29
941	Summit and Griggs	"	"	12	29
942	Summit and Milwaukee Ry	"	"	12	29
943	Beech and Forrest	"	"	6	52
944	South Robert and Chicago	Low	"	6	69
945	South Robert and Plato	"	"	6	70
946	South Robert 250 feet S. of Plato	"	"	6	70
947	South Robert and Morrison	"	"	6	64
948	South Robert and railroad bridge	"	"	6	59
949	Marion and Thomas	High	"	6	58
950	Marion and Lafond	"	"	6	59
951	State and Chicago	Low	"	16	69
952	State and Plato	"	"	16	69
953	State and Florida	"	"	16	69
954	State and Utah	"	"	16	68
955	Van Buren and Western	High	"	6	58
956	Van Buren and Arundel	"	"	6	57
957	Isabel and Charlton	Low	"	6	29
958	West Seventh and Ramsey, N. E. corner	"	Double	20	36
959	West Seventh and Walnut, N. E. corner	"	"	20	41
960	West Seventh and Chestnut, S. E corner	"	"	20	38
961	Lafond and Western	High	Single	6	56
962	Lafond and Arundel	"	"	6	57
963	Lafond and Mackubin	"	"	6	57
964	Randolph and Fulton	Low	"	12	29
965	Randolph and Clifton	"	"	12	28
966	Randolph and Victoria	"	"	12	27
967	Randolph and Milton	"	"	12	26
968	Lafond and Kent	High	"	6	53
969	Lafond and Dale	"	"	6	50
970	Eagle and West Seventh, S. W. corner	Low	Double	6	34
971	Edmund and Arundel	High	Single	6	58
972	Edmund & Mackubin	"	"	6	56
973	Edmund & Kent	"	"	6	51
974	Edmund & Dale	"	"	6	50
975	Case and Forrest	"	"	12	49
976	Case and Mendota	"	"	12	40
977	Colborne and St. Clair	Low	"	6	33
978	Case and Weide	High	"	12	36
979	Case and Walsh	"	"	12	38

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
980	Aurora and Dale	High	Single	6	43
981	Fuller and Dale	"	"	6	42
982	Rondo and Dale	"	"	6	29
983	Payne and Case	"	"	6	66
984	Payne and Jenks	"	"	6	65
985	Payne and Lawson	"	"	6	64
986	Cook and Payne	"	"	6	61
987	Case and Greenbrier	"	"	12	50
988	Case and Edgerton	"	"	12	73
989	Martin and Dale	"	"	6	40
990	Colborne and Superior	Low	"	6	32
991	Colborne and Michigan	"	"	6	32
992	Case and Jessie	High	"	12	73
993	Case and Bradley	"	"	12	67
994	Case and Burr	"	"	12	66
995	Case and De Soto	"	"	12	66
996	Case and Arkwright	"	"	12	60
997	Case and McNenomy	"	"	12	62
998	Burr and Jenks	"	"	6	66
999	Burr and York	"	"	6	63
1000	Burr and Whitall	"	"	6	60
1001	Burr and Omaha Ry	"	"	6	66
1002	Charles and Mackubin	"	"	6	55
1003	Charles and Kent	"	"	6	50
1004	Charles and Dale	"	"	6	48
1005	Charles and St. Albans	"	"	6	47
1006	Edmund and St. Albans	"	"	6	48
1007	Edmund and Grotto	"	"	6	50
1008	Lafond and St. Albans	"	"	6	48
1009	Lafond and Grotto	"	"	6	51
1010	Van Buren and Dale	"	"	6	54
1011	Minnehaha and Dale	"	"	6	54
1012	Payne and Omaha Ry	"	"	6	63
1013	Payne and Ross	"	"	6	65
1014	Payne and Whitall	"	"	6	63
1015	Payne and Wells	"	"	6	61
1016	York and Edgerton	"	"	6	75
1017	York and Payne	"	"	6	62
1018	York and Greenbrier	"	"	6	48
1019	Sims and Greenbrier	"	"	6	49
1020	Sims and Payne	"	"	6	64
1021	Tuscarora and W. Seventh	Low	"	6	33
1022	Sims and Weide	High	"	6	35
1023	Sims and Walsh	"	"	6	41
1024	York and Weide	"	"	6	33
1025	York and Walsh	"	"	6	40
1026	University and St. Albans	"	"	20	48
1027	University and Grotto	"	"	20	47
1028	University and Avon	"	"	20	47
1029	University and Victoria	"	"	20	46
1030	York and Mendota	"	"	6	53
1031	York and Forrest	"	"	6	57
1032	Forrest and Wells	"	"	6	64
1033	Forrest and Sims	"	"	6	51
1034	Beech and Cypress	"	"	6	56
1035	University and Milton	"	"	20	47
1036	University and Chatsworth	"	"	20	57
1037	University and Oxford	"	"	20	50
1038	University and Lexington	"	"	20	45
1039	Park avenue and Aurora	"	"	6	59
1040	Daly and James	Low	"	6	34
1041	Daly and Palace	"	"	6	32
1042	Daly and Jefferson	"	"	6	32
1043	Third and Pine	"	Double	12	68
1044	Third and Olive	"	"	12	69
1045	Third and John	"	"	12	69
1046	Laurel and Fisk	High	Single	6	31
1047	Summit Court	"	"	6	34
1048	Third and Broadway, N. W. corner	Low	Double	12	67
1049	Third and Wacouta, N. E. corner	"	"	12	64

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
1050	Sibley and Third, N. E. corner	Low	Double	12	62
1051	Goodrich and St. Albans	High	Single	6	40
1052	Goodrich and Grotto	"	"	6	35
1053	Goodrich and Avon	"	"	6	33
1054	Goodrich and Victoria	"	"	6	32
1055	State and Morrison	Low	"	16	67
1056	State and Champlain	"	"	16	67
1057	State and Eaton	"	"	16	63
1058	State and Delos	"	"	16	57
1059	Mound and Hastings	High	"	12	62
1060	Mound 300 feet south of Hastings	"	"	12	56
1061	Mound and McLean	"	"	12	49
1062	Mound and Lizzie	"	"	12	45
1063	Garfield and Lisbon	Low	"	6	34
1064	Fairmount and Dale	High	"	12	37
1065	Kenwood Park, north side	"	"	6	31
1066	Kenwood Park, south side	"	"	6	30
1067	Pine and Pennsylvania	"	"	6	54
1068	Fairmount and St. Albans	"	"	6	45
1069	Fairmount and Grotto	"	"	6	37
1070	Seventh and Wabasha, N. E. corner	Low	Double	16	36
1071	Seventh and Cedar, N. E. corner	"	"	16	42
1072	Seventh and Minnesota, N. E. corner	"	"	16	44
1073	Seventh and Robert, N. E. corner	"	"	16	45
1074	University and Griggs	High	Single	20	36
1075	University and Hamline	"	"	20	30
1076	University and Pascal	"	"	20	32
1077	University and Snelling	"	"	20	33
1078	University and Aldine	"	"	20	36
1079	University and Wheeler	"	"	20	39
1080	University and Fairview	"	"	20	41
1081	University and Prior, N. E. corner	"	"	20	40
1082	Laura and University	"	"	6	42
1083	Laura and Waltham	"	"	6	34
1084	Feronia and Laura	"	"	6	39
1085	Feronia and Lynnhurst, W	"	"	6	39
1086	Lynnhurst West and Oakley	"	"	6	44
1087	Lynnhurst and University	"	"	6	41
1088	Lynnhurst E. 300 ft. north of Feronia	"	"	6	43
1089	Oakley and Prior	"	"	6	40
1090	Feronia and Fairview	"	"	6	41
1091	Waltham, 300 feet east of Prior	"	"	4	38
1092	Milwaukee avenue and Merriam place	"	"	6	39
1093	Milwaukee avenue and Astori	"	"	6	37
1094	St. Anthony and Ferdinand	"	"	6	36
1095	St. Anthony and Howell	"	"	6	37
1096	St. Anthony and Prior	"	"	6	38
1097	St. Anthony and Merriam place	"	"	6	35
1098	St. Anthony and Astoria	"	"	6	36
1099	St. Anthony and Cleveland	"	"	6	38
1100	Rondo and Laura	"	"	6	32
1101	Rondo and Ferdinand	"	"	6	35
1102	Rondo and Howell	"	"	6	36
1103	Rondo and Prior	"	"	6	38
1104	Rondo and Terrace Park avenue	"	"	6	39
1105	Carroll and Fairview	"	"	6	33
1106	Carroll and Laura	"	"	6	35
1107	Carroll and Ferdinand	"	"	6	36
1108	Carroll and Howell	"	"	6	37
1109	Carroll and Prior	"	"	6	45
1110	Carroll and Moore	"	"	6	40
1111	Carroll and Wilder	"	"	6	39
1112	Carroll and Cleveland	"	"	6	38
1113	Iglehart and Cleveland	"	"	6	44
1114	Iglehart and Wilder	"	"	6	43
1115	Iglehart and Moore	"	"	6	41
1116	Iglehart and Prior	"	"	6	37
1117	Iglehart and Howell	"	"	6	36
1118	Iglehart and Laura	"	"	6	34
1119	Wilder and Carroll	"	"	6	39

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
1120	Wilder and Rondo	High	Single	6	37
1121	Fauquier and Frank	"	"	6	63
1122	Plum and Hoffman	"	"	6	76
1123	Fremont and Forrest	"	"	6	47
1124	Prior and University, S. E. corner	"	"	12	40
1125	Prior and Feron a	"	"	12	42
1126	Sibley and Fourth, S. W. corner	Low	Double	6	54
1127	Prior and Marshall	High	Single	12	39
1128	Chicago and Starkey	Low	"	6	69
1129	Chicago and Custer	"	"	6	69
1130	Emma and Railroad	"	"	4	40
1131	Robie and Brown	"	"	6	57
1132	Rondo and Kent	High	"	6	35
1133	Short and Maria	"	"	6	72
1134	Ravine 325 feet West of Maria	"	"	4	63
1135	Cedar and Fourth, S. E. corner	Low	Double	12	38
1136	Wabasha and Fourth, N. E. corner	"	"	6	32
1137	Third and Exchange, South side	"	"	12	35
1138	Third and Franklin, south side	"	"	12	34
1139	Third and Washington, South side	"	"	12	34
1140	Third and Market, South side	"	"	12	33
1141	Third and St. Peter, South side	"	"	12	33
1142	Cedar and Third, S. E. corner	"	"	12	33
1143	Wabasha and Third, S. W. corner	"	"	12	34
1144	Lafond and Claghorn	High	Single	6	58
1145	Claghorn and Lake	"	"	6	57
1146	Claghorn and Van Buren	"	"	6	60
1147	George and Livingston	Low	"	12	20
1148	George and Gorman	"	"	12	22
1149	George and Goff	"	"	12	23
1150	George and Hall	"	"	12	17
1151	George and Stryker	"	"	12	15
1152	Stryker and Robie	"	"	6	22
1153	Stryker and Winnifred	"	"	6	26
1154	Stryker and Congress	"	"	6	22
1155	Stryker and Delos	"	"	6	21
1156	Stryker and Colorado	"	"	6	20
1157	Stryker and Prospect Terrace	"	"	6	21
1158	Ellen and St. Albans	High	"	6	46
1159	Seventh and John, S. E. corner	Low	Double	16	45
1160	Seventh and Olive, S. E. corner	"	"	16	43
1161	Seventh and Pine, S. E. corner	"	"	16	43
1162	Seventh and Broadway, N. E. corner	"	"	16	44
1163	Seventh and Rosabel, N. E. corner	"	"	16	44
1164	Seventh and Sibley	"	"	16	45
1165	Wacouta and Seventh, S. E. corner	"	"	12	44
1166	Locust and Seventh, N. E. corner	"	"	20	46
1167	Charles and Grotto	High	Single	6	49
1168	Charles and Avon	"	"	6	46
1169	Aurora and St. Albans	"	"	6	46
1170	Rondo and St. Albans	"	"	6	33
1171	Rondo and Grotto	"	"	6	38
1172	Rondo and Avon	"	"	6	43
1173	Rondo and Fisk	"	"	6	45
1174	Rondo and Victoria	"	"	6	46
1175	Indiana and Wabasha, N. W. corner	Low	"	12	69
1176	Indiana and Edward	"	"	12	69
1177	Indiana and Water	"	"	12	69
1178	Indiana and Hyde	"	"	12	69
1179	Indiana and Moses	"	"	12	69
1180	Indiana and Daniel	"	"	12	68
1181	Indiana and Ethel	"	"	12	63
1182	Holly and Victoria	High	"	6	32
1183	St. Anthony and St. Albans	"	"	6	33
1184	George and S. Robert	Low	"	12	25
1185	George and Maurice	"	"	12	28
1186	State and George	"	"	16	48
1187	State and Dearborn	"	"	16	43
1188	State and Oakdale	"	"	16	40
1189	Oakdale and Prescott	"	"	16	28

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
1190	Oakdale and Midway	Low	Single	6	18
1191	Thomas and Claghorn	High	"	6	57
1192	Thomas and Gaultier	"	"	6	59
1193	Thomas and Elfelt	"	"	6	58
1194	Thomas and Farrington	"	"	6	56
1195	Thomas and Virginia	"	"	6	53
1196	Virg nia and Lafond	"	"	4	57
1197	Farrington and Lafond	"	"	6	58
1198	Elfelt and Lafoud	"	"	4	59
1199	Gaultier and Lafond	"	"	6	60
1200	Snelling and Edmund	"	"	16	32
1201	Snelling and Blair	"	"	16	30
1202	Snelling and Minnehaha	"	"	16	29
1203	Snelling and Capitol	"	"	16	28
1204	Snelling and Wesley	"	"	16	27
1205	Snelling and G. N. Ry	"	"	16	24
1206	Walker and G. N. Ry	"	"	4	24
1207	Taylor and Charlotte	"	"	6	25
1208	Taylor and Walker	"	"	6	26
1209	Taylor and Snelling	"	"	6	25
1210	Taylor and Asbury	"	"	6	24
1211	Taylor and Simpson	"	"	6	24
1212	Taylor and Pascal	"	"	6	25
1213	Taylor and Holton	"	"	6	26
1214	Hewitt 140 feet E. of Sheldon	"	"	6	25
1215	Hewitt and Sheldon	"	"	6	24
1216	Hewitt and Holton	"	"	6	27
1217	Hewitt and Pascal	"	"	6	26
1218	Hewitt and Simpson	"	"	6	24
1219	Hewitt and Asbury	"	"	6	25
1220	Hewitt and Snelling	"	"	6	26
1221	Hewitt and Walker	"	"	6	26
1222	Hewitt and Charlotte	"	"	6	27
1223	Hewitt and Aldine	"	"	6	29
1224	Wesley and Fry	"	"	6	30
1225	Wesley and Simpson	"	"	6	26
1226	Pascal and Wesley	"	"	6	26
1227	Pascal and Capitol	"	"	6	26
1228	Capitol and Simpson	"	"	6	27
1229	Capitol and Asbury	"	"	6	27
1230	Minnehaha and Asbury	"	"	12	28
1231	Minnehaha and Simpson	"	"	12	27
1232	Minnehaha and Pascal	"	"	12	27
1233	Minnehaha and Holton	"	"	12	26
1234	Minnehaha and Sheldon	"	"	12	26
1235	Eagle and Franklin	Low	"	6	59
1236	Maria and North	High	"	6	67
1237	North and Truxton	"	"	6	65
1238	Banfil and Richmond	Low	"	4	32
1239	North and Bates	High	"	6	63
1240	Bates and Maury	"	"	6	60
1241	Hope and Seventh, S. W. corner	"	"	6	40
1242	Arcade and Seventh, S. W. corner	"	"	6	46
1243	Arcade and Dawson	"	"	6	36
1244	Front and Como, N. W. corner	"	"	12	41
1245	Front and Grotto	"	"	12	43
1246	Front and Avon	"	"	12	37
1247	Front and South	"	"	12	33
1248	Front and Ryde	"	"	12	33
1249	Front and Chatsworth	"	"	12	31
1250	Front and Argyle	"	"	12	30
1251	Front and Oxford	"	"	12	0
1252	Front and Churchill	"	"	12	32
1253	Front and Lexingto	"	"	12	34
1254	Seventh and Newcomb	"	"	16	54
1255	Seventh and Atlantic	"	"	16	54
12 6	Seventh and Ocean	"	"	16	58
1257	Minnehaha and Duluth	"	"	6	57
1258	Minnehaha and Frank	"	"	6	51
1259	Dayton place 200 ft. W. of Maria	"	"	4	72

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Stack'r	Size of Pipe	Pressure at Hydrant.
1260	Minnehaha and Seventh, N. E. corner	High	Single	6	55
1261	Minnehaha and Forrest	"	"	6	56
1262	Minnehaha and Cypress	"	"	6	58
1263	Dale and G. N. R. R.	"	"	24	52
1264	Burgess and Dale	"	"	6	43
1265	Topping and Dale	"	"	6	44
1266	Case and Terrance	"	"	6	76
1267	Toronto and Palace	Low	"	6	33
1268	Toronto and Jefferson	"	"	6	33
1269	Lexington and N. P. Ry	High	"	16	28
1270	Third and Robert, N. E. corner	Low	Double	12	67
1271	Third and Minnesota, N. W. corner	"	"	12	40
1272	Robert and Fourth, S. E. corner	"	"	6	46
1273	Hastings and Maple	High	Single	12	58
1274	Maple and Plum	"	"	12	49
1275	Sherburne and Grotto	"	"	6	48
1276	Sherburne and Avon	"	"	6	58
1277	Sherburne and Victoria	"	"	6	47
1278	Freemont and Arcade	"	"	6	39
1279	E. Third and Arcade	"	"	6	44
1280	Conway and Cypress	"	"	6	46
1281	Sibley between Fifth and Sixth	Low	Double	6	48
1282	Freemont and Cypress	High	Single	6	48
1283	Forest and Fourth	"	"	6	45
1284	Forrest and Francis	"	"	6	46
1285	Columbia and Arch	Low	"	6	30
1286	Columbia and Pennsylvania	"	"	6	32
1287	Sims and Mendota	High	"	6	50
1288	Sims and Edgerton	"	"	6	74
1289	York and Jessie	"	"	6	78
1290	York and Bradley	"	"	6	64
1291	Fairmount and Avon	"	"	6	31
1292	Fairmount and Victoria	"	"	6	33
1293	Lisbon and Pleasant	Low	"	6	28
1294	Pleasant and Western	"	"	6	26
1295	University under east end of bridge	High	"	20	40
1296	University under center of bridge	"	"	20	40
1297	University and Cleveland	"	"	20	40
1298	University under west end of bridge	"	"	20	40
1299	University and Vandalia	"	"	20	42
1300	University and Pillsbury	"	"	20	46
1301	University and Hersey	"	"	20	48
1302	University and La Salle	"	"	20	46
1303	University and Carleton	"	"	20	43
1304	Cayuga and Mississippi	"	"	6	86
1305	Cayuga 300 feet west of Mississippi	"	"	6	72
1306	Raymond and University	"	"	16	42
1307	Raymond and Territorial road	"	"	16	39
1308	Raymond and Ellis	"	"	16	34
1309	Raymond and Bayless avenue East	"	"	6	42
1310	Raymond and Manvel	"	"	6	35
1311	Cudworth and Bayless avenue	"	"	6	43
1312	Cudworth and Cromwell	"	"	6	43
1313	Cudworth and Eustis	"	"	6	38
1314	Pym and Bayless	"	"	12	42
1315	Pym and Cromwell	"	"	12	35
1316	Pym and Eustis	"	"	12	34
1317	Cromwell 200 feet south of Manvel	"	"	6	40
1318	Manvel and Robbins	"	"	6	46
1319	Manvel and Bayless	"	"	6	41
1320	Bayless and Robbins	"	"	16	41
1321	Bayless head of Bayless avenue east	"	"	16	41
1322	Hampden and Bradford	"	"	6	43
1323	Hampden 400 feet east of Bradford	"	"	6	41
1324	Hampden and Hersey	"	"	6	42
1325	Sidney and Bradford	"	"	6	39
1326	Sidney and Raymond	"	"	6	42
1327	Cayuga and Agate	"	"	6	78
1328	Cayuga and Courtland	"	"	6	60
1329	Osceola and Pleasant	"	"	6	64

LIST OF HYDRANTS---Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
1330	Osceola, 400 feet W. of Pleasant	High	Single	6	49
1331	Osceola and Grotto	"	"	6	34
1332	Osceola and Avon	"	"	6	32
1333	Osceola and Victoria	"	"	6	34
1334	Victoria and St. Clair	"	"	16	39
1335	Magnolia and Edgerton	"	"	6	49
1336	Magnolia and Payne	"	"	6	53
1337	Magnolia and Greenbrier	"	"	6	40
1338	Snelling and Shields	"	"	16	31
1339	Snelling and St. Anthony	"	"	16	29
1340	Snelling and Carroll	"	"	16	30
1341	Carroll and Fry	"	"	6	29
1342	Payne and Jessamine	"	"	6	46
1343	Jessamine and Greenbrier	"	"	6	38
1344	Jessamine and Edgerton	"	"	6	42
1345	Goodhue and Duke	Low	"	6	33
1346	Payne and Geranium	High	"	6	43
1347	Payne and Rose	"	"	6	40
1348	Edgerton and Jenks	"	"	12	73
1349	Edgerton and Lawson	"	"	12	66
1350	Edgerton and Geranium	"	"	12	39
1351	Edgerton and Rose	"	"	12	37
1352	Jessamine and Jessie	"	"	6	31
1353	Jessamine and Bradley	"	"	6	32
1354	Cook and Edgerton	"	"	6	57
1355	Robert and Dearborn	Low	"	6	22
1356	Robert and Louisa	"	"	6	20
1357	Robert and Elizabeth	"	"	6	13
1358	Cook and Greenbrier	High	"	6	42
1359	Beaumont and Payne	Low	"	6	27
1360	Aurora and Victoria	High	"	6	45
1361	Aurora and Milton	"	"	6	48
1362	Fuller and Victoria	"	"	6	47
1363	Fuller and Milton	"	"	6	49
1364	Martin and Victoria	"	"	6	48
1365	Martin and Milton	"	"	6	49
1366	St. Anthony and Victoria	"	"	6	47
1367	St. Anthony and Milton	"	"	6	48
1368	Victoria and Marshall, N. W. corner	"	"	16	34
1369	Cook and Walsh	"	"	6	46
1370	Cook and Weide	"	"	6	49
1371	Cook and Mendota	"	"	6	45
1372	Snelling and Marshall	"	"	16	32
1373	Snelling and Selby	"	"	16	26
1374	Snelling and Hague	"	"	16	27
1375	Snelling and Ashland	"	"	16	26
1376	Snelling and Summit	"	"	16	22
1377	Snelling and Grand	"	"	16	19
1378	Snelling and Lincoln	"	"	16	17
1379	Snelling and Goodrich	"	"	16	16
1380	Summit and McAllister	"	"	4	30
1381	Jessamine and Weide	"	"	6	47
1382	Jessamine and Arcade	"	"	6	45
1383	Jessamine and Mendota	"	"	6	44
1384	Jessamine and Forrest	"	"	6	39
1385	Forrest and Geranium	"	"	6	38
1386	Burr and Lawson	"	"	6	56
1387	Burr and Cook	"	"	6	43
1388	Selby and Milton	"	"	6	36
1389	Ashland and Milton	"	"	6	34
1390	Victoria and Ashland	"	"	16	31
1391	Dayton and Milton	"	"	6	37
1392	Clark and Whitall	"	"	6	66
1393	Clark and York	"	"	6	56
1394	Clark and Lookout place	"	"	6	6[illegible]
1395	Clark and Case	"	"	6	65
1396	Iglehart and Milton	"	"	6	36
1397	Iglehart and Chatsworth	"	"	6	39
1398	Iglehart and Oxford	"	"	6	48
1399	Tuscarora and Victoria	Low	"	6	29

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
1400	Whitall and Bradley	High	Single	6	53
1401	Rondo and Milton	"	"	6	43
1402	Whitall and De Soto	"	"	6	63
1403	De Soto and York	"	"	6	61
1404	Mound and Burns	"	"	12	44
1405	Mayall alley 75 ft. N. of Seventh	Low	"	4	32
1406	Burns and Clermont	High	"	6	42
1407	Cross and Lexington	"	"	6	40
1408	Workhouse north	"	"	6	38
1409	Workhouse south	"	"	6	38
1410	Burns and Earl	"	"	6	41
1411	Burns and Hester	"	"	6	48
1412	Burns and Griffith	"	"	6	53
1413	Van Slyke and Lexington	"	"	6	41
1414	Van Slyke and Horton	"	"	6	42
1415	Van Slyke and Argyle	"	"	6	38
1416	Argyle and Cross	"	"	6	39
1417	Tuscarora and Milton	Low	"	6	30
1418	Francis and Cypress	High	"	6	34
1419	Robbins and Raymond place	"	"	6	35
1420	Bayless and Tainter	"	"	16	46
1421	Wheeler and Bayless	"	"	12	46
1422	Wheeler and Ada Place	"	"	12	39
1423	Wheeler and Everett court	"	"	12	40
1424	Everett court and G. N. Ry	"	"	6	41
1425	Raymond and Kendrick	"	"	6	41
1426	Raymond and Blake	"	"	6	44
1427	Raymond and Atty place	"	"	6	42
1428	Raymond and Langford avenue	"	"	6	39
1429	Priscilla and Raymond	"	"	6	41
1430	Priscilla 500 ft. E. of Raymond	"	"	6	43
1431	Pratt and Raymond	"	"	6	40
1432	Pratt and Alden	"	"	6	43
1433	Pratt and Gibbs	"	"	6	45
1434	Blake and Langford place east	"	"	16	44
1435	Blake and Scudder	"	"	6	44
1436	Scudder and Atty place	"	"	16	36
1437	Scudder and Gordon	"	"	6	36
1438	Langford and Scudder	"		16	36
1439	Langford and Knapp	"		16	35
1440	County road and Dooley	"		16	25
1441	Dawson and Francis	"	"	6	46
1442	Crocus place	"	"	4	38
1443	Delos and Hall	Low	"	6	20
1444	Langford P. P. W. and Bayless	High	"	12	45
1445	Langford P. P. W. and N. P. Ry	"	"	6	35
1446	Langford P. P. W. and Bayless	"	"	12	37
1447	Gordon and Langford P. P. W	"	"	12	36
1448	Gordon and Nourse	"	"	12	37
1449	Goff and Winnifred	Low	"	6	38
1450	Dooley and Chelmsford	High	"	6	23
1451	Winnifred and Hall	Low	"	6	31
1452	Robie and Andrew	"	"	6	32
1453	Iglehart and Fairview	High	"	6	31
1454	Hall and Congress	Low	"	6	27
1455	Marshall and Amos	High	"	12	33
1456	Midway and Mt. Hope	Low	"	6	18
1457	Midway and Havard	"	"	6	21
1458	Midway and Woodbury	"	"	6	23
1459	Midway and Brown	"	"	6	38
1460	Prescott and Mt. Hope	"	"	6	22
1461	Prescott and Harvard	"	"	6	22
1462	Prescott and Woodbury	"	"	6	24
1463	Langford P. P. E. and Gordon	High	"	6	41
1464	Knapp and Langford P. P. E	"	"	6	42
1465	Knapp and Langford P. P. W	"	"	6	42
1466	Knapp and Langford avenue	"	"	6	33
1467	Reaney and St. P. & D. Ry	Low	"	6	18
1468	Armstrong and View	"	"	6	32
1469	Armstrong and Victoria	"	"	6	28

LIST OF HYDRANTS---Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
1470	Armstrong and Milton	Low	Single	6	27
1471	Armstrong and Chatsworth	"	"	6	26
1472	St. Peter and Fifth, S. E. corner	"	Double	6	33
1473	Martin and St. Albans	High	Single	6	34
1474	Martin and Grotto	"	"	6	45
1475	Wabasha and Sixth, S. E, corner	Low	Double	6	31
1476	Armstrong and Warsaw	"	Single	6	37
1477	Armstrong and Drake	"	"	6	42
1478	St. Anthony and Grotto	High	"	6	42
1479	St. Anthony and Avon	"	"	6	45
1480	St. Anthony and Fisk	"	"	6	46
1481	Whitall and Jessie	"	"	6	60
1482	Carroll and Chatsworth	"	"	6	42
1483	Warsaw and Audubon	Low	"	6	35
1484	Whitall and Edgerton	High	"	6	67
1485	Dayton and Laura	"	"	6	31
1486	Dayton and Amos	"	"	6	33
1487	Dayton and Moore	"	"	6	43
1488	Dayton and Wilder	"	"	6	44
1489	Dayton and Cleveland	"	"	6	45
1490	Prior and Dayton	"	"	6	38
1491	Westminster and Lookout place	"	"	6	64
1492	Lookout place and Arkwright	"	"	6	63
1493	Dayton and Chatsworth	"	"	6	40
1494	Dayton and Oxford	"	"	6	45
1495	Wabasha and Fifth, S. E. corner	Low	Double	6	34
1496	Randolph and Toronto	"	Single	6	38
1497	St. Anthony and Fairview	High	"	6	30
1498	Jessie and Jenks	"	"	6	72
1499	Jessie and Lawson	"	"	6	65
1500	Jessie and Cook	"	"	6	53
1501	Jessie and Magnolia	"	"	6	40
1502	Laurel and Victoria	"	"	6	32
1503	Laurel and Milton	"	"	6	38
1504	Laurel and Chatsworth	"	"	6	30
1505	Laurel and Oxford	"	"	6	31
1506	Lincoln and Chatsworth	"	"	6	38
1507	Lincoln and Oxford	"	"	6	36
1508	Magnolia and Walsh	"	"	6	48
1509	Magnolia and Weide	"	"	6	47
1510	Magnolia and Mendota	"	"	6	42
1511	Magnolia and Forrest	"	"	6	40
1512	St. Anthony and Roy	"	"	.....	.....
1513	St. Anthony and Fry	"	"	6	29
1514	St. Anthony and Pierce	"	"	6	31
1515	St. Anthony and Aldine	"	"	6	32
1516	St. Anthony and Herschel	"	"	6	33
1517	St. Anthony and Wheeler avenue	"	"	6	34
1518	St. Anthony and Bacon	"	"	6	34
1519	Goodrich and Milton	"	"	6	38
1520	Goodrich and Chatsworth	"	"	6	40
1521	Goodrich and Oxford	"	"	6	35
1522	Mt. Ida and Rivoli	Low	"	6	8
1523	Osceola and Milton	High	"	6	45
1524	Osceola and Chatsworth	"	"	6	36
1525	Evergreen and Chatsworth	"	"	6	39
1526	Evergreen and Oxford	"	"	6	32
1527	Arcade and Geranium	"	"	12	46
1528	Arcade and Rose	"	"	12	45
1529	Rose and Weide	"	"	6	46
1530	Rose and Walsh	"	"	6	45
1531	Fairview and Shields	"	"	16	37
1532	Geranium and Weide	"	"	6	47
1533	Geranium and Walsh	"	"	6	45
1534	Geranium and Greenbrier	"	"	6	40
1535	Fairview and Sherburne	"	"	16	40
1536	St. Clair and Roebe	"	"	12	43
1537	St. Clair and Milton	"	"	12	77
1538	St. Clair and Chatsworth	"	"	12	38
1539	St. Clair and Ridgewood avenue	"	"	12	33

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Stream'r	Size of Pipe.	Pressure at Hydrant.
1540	St. Clair and Oxford street	High	Single	12	30
1541	Jessamine and Walsh	"	"	6	46
1542	Auburn and Fairview	"	"	6	40
1543	Auburn 500 ft. W. of Fairview	"	"	6	37
1544	Wheeler and Shields	"	"	6	36
1545	Jessamine and Burr	"	"	6	42
1546	Bacon and Shields	"	"	4	36
1547	Jessamine and DeSoto	"	"	6	46
1548	Jessamine and Clark	"	"	6	59
1549	Jessamine and Arkwright	"	"	6	46
1550	Portland and Victoria	"	"	6	32
1551	Jessamine and Woodland	"	"	6	44
1552	Jessamine and McNenomy	"	"	6	51
1553	Jessamine 150 ft. E. os Mississippi	"	"	6	70
1554	Territorial road and Hunt place	"	"	6	43
1555	Territorial road and Cromwell	"	"	6	44
1556	Territorial road and Eustis	"	"	6	40
1557	Hague avenue and Milton street	"	"	6	35
1558	Hague avenue and Chatsworth	"	"	6	31
1559	Hague avenue and Oxford street	"	"	6	32
1560	Hague avenue and Lexington	"	"	6	36
1561	Mulberry and Sixth	"	"	4	62
1562	Payne and Maryland	"	"	6	38
1563	Payne and Hawthorne	"	"	6	40
1564	Payne and Orange	"	"	6	39
1565	Payne and Hyacinth	"	"	6	38
1566	Payne and Ivy	"	"	6	36
1567	Nourse and N. P. Ry	"	"	6	35
1568	DeSoto and Jenks	"	"	6	61
1569	DeSoto and Lawson	"	"	6	40
1570	Charles and Arundel	"	"	6	57
1571	Virginia and Blair	"	"	4	58
1572	Virginia and Minnehaha	"	"	4	57
1573	Capitol and Fry	"	"	6	29
1574	Capitol and Aldine	"	"	6	25
1575	Capitol and Wheeler	"	"	6	30
1576	Arch and Fairview	"	"	6	58
1577	Arch and Warren	"	"	6	36
1578	Arch and Mt. Vernon	"	"	6	49
1579	Arch 300 ft. E. of Linden	"	"	6	71
1580	Arch 100 ft. W. of Columbia	"	"	6	84
1581	Gaultier and Topping	"	"	6	62
1582	Gaultier and Burgess	"	"	6	62
1583	Gaultier and Stinson	"	"	6	56
1584	Gaultier and Hatch	"	"	6	49
1585	Gaultier and Merrill	"	"	6	44
1586	Gaultier and Cook	"	"	6	46
1587	Stinson and Farrington	"	"	6	52
1588	Minnehaha and Duluth Ry	"	"	12	78
1589	Minnehaha and Greenbrier	"	"	12	77
1590	Minnehaha and Walsh	"	"	12	67
1591	Minnehaha and Weide	"	"	12	59
1592	Woodbridge and Atwater	"	"	6	63
1593	Woodbridge and Milford	"	"	6	62
1594	Woodbridge and Wayzatta	"	"	6	61
1595	Milford and Claghorn	"	"	6	62
1596	Milford and Albermarle	"	"	6	62
1597	Reaney and Duluth	"	"	6	62
1598	Reaney and Atlantic	"	"	6	60
1599	Reaney and English	"	"	6	53
1600	Rice and G. N. Ry	"	"	12	56
1601	Rice and Capitol	"	"	12	59
1602	Fauquier and Duluth	"	"	6	63
1603	Milford and Rice	"	"	6	62
1604	Atlantic and Fauquier	"	"	6	61
1605	Fauquier 300 ft. E. of Atlantic	"	"	6	57
1606	Cleveland and Myrtle	"	"	16	39
1607	Cleveland and Wabash	"	"	16	38
1608	Cleveland 300 ft. N. of Milwaukee Ry	"	"	16	40
1609	Cleveland and Milwaukee Ry	"	"	16	39

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
1610	Seventh and English	High	Single	16	56
1611	Phalen and Seventh	"	"	12	55
1612	Phalen and Kerwin	"	"	12	56
1613	Phalen and Brand	"	"	12	57
1614	Phalen	"	"	12	56
1615	Phalen and Stillwater	"	"	12	55
1616	Cleveland and Rondo	"	"	16	35
1617	Earl and Dawson	"	"	12	58
1618	Margaret and Frank	"	"	6	53
1619	Margaret and Gotzian	"	"	6	49
1620	Carroll and Wheeler	"	"	6	32
1621	Fremont and Earl	"	"	6	57
1622	Rice and Hatch	"	"	16	59
1623	Rice and Merrill	"	"	16	59
1624	Rice and Cook	"	"	16	59
1625	Rice and Oliver	"	"	16	57
1626	Cook and Rice	"	"	6	59
1627	Cook and Park avenue	"	"	6	56
1628	Cook and Sylvan	"	"	6	51
1629	Hastings and Forrest	"	"	12	57
1630	Rice and Lyton	"	"	16	64
1631	Rice and Wayzata	"	"	16	61
1632	Litchfield and Rice	"	"	6	61
1633	Litchfield and Park	"	"	6	56
1634	Litchfield and Sylvan	"	"	6	50
1635	Fuller and Chatsworth	"	"	6	49
1636	Fuller and Oxford	"	"	6	50
1637	Fuller 200 ft. W. of Oxford	"	"	6	49
1638	Hastings and Cypress	"	"	12	54
1639	Hastings and Earl	"	"	12	51
1640	Hastings and Frank	"	"	12	56
1641	Earl and Pacific	"	"	12	50
1642	Atwater and Rice	"	"	6	63
1643	Atwater and Park	"	"	6	62
1644	Atwater and Sylvan	"	"	6	59
1645	Earl and McLean	"	"	12	47
1646	Earl and Suburban	"	"	12	46
1647	Sycamore and Rice	"	"	12	63
1648	Sycamore and Park	"	"	12	63
1649	Sycamore and Sylvan	"	"	12	61
1650	Sycamore and Lightner	"	"	12	64
1651	Sycamore and Jackson	"	"	12	66
1652	Sycamore and Courtland	"	"	12	66
1653	Maria and McLean, N. W. corner	"	"	6	73
1654	Jackson under bridge at round house	"	"	12	69
1655	Jackson under bridge at round house	"	"	12	69
1656	Jackson north line of G. N. Ry	"	"	12	60
1657	Jackson and Capitol	"	"	12	63
1658	Lafond and Milton	"	"	6	44
1659	Maria and McLean, S. W. corner	"	"	6	73
1660	Maria and Lizzie	"	"	6	66
1661	Capitol and Sylvan	"	"	6	62
1662	Capitol and Lightner place	"	"	6	66
1663	Stewart and Tuscarora	Low	"	6	36
1664	Stewart and Bay	"	"	6	34
1665	Bay and Logan	"	"	6	37
1666	Bay and Tuscarora	"	"	6	35
1667	Hudson and Forrest	High	"	6	58
1668	Hudson and Cypress	"	"	6	50
1669	Selby and Chatsworth	"	"	6	32
1670	Selby and Oxford	"	"	6	36
1671	Mound and Clermont	"	"	6	50
1672	Mound and Thorn	"	"	6	46
1673	Mound 335 ft. W. of Earl	"	"	6	34
1674	Courtland and Agate	"	"	16	66
1675	Courtland and York	"	"	16	61
1676	Courtland and Poplar	"	"	16	63
1677	Hall and Colorado	Low	"	6	21
1678	Hall and Prospect terrace	"	"	6	23
1679	Marshall and Laura	High	"	12	29

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrants.
1680	Marshall and Fairview	High	Single	12	28
1681	Marshall and Wheeler	"	"	12	20
1682	View and Juno	Low	"	6	32
1683	Minnehaha and Hamline	High	"	12	27
1684	Hall and Robie	Low	"	6	25
1685	Courtland and Case	High	"	16	64
1686	Courtland and Jenks	"	"	16	65
1687	Courtland and Lawson	"	"	16	64
1688	Courtland and Cook	"	"	16	64
1689	Courtland and Magnolia	"	"	16	63
1690	Courtland and Jessamine	"	"	16	62
1691	Courtland and Geranium	"	"	16	61
1692	Courtland and Rose	"	"	16	62
1693	Courtland and Maryland	"	"	16	64
1694	Congress and Goff	Low	"	6	40
1695	Agate and York	High	"	6	80
1696	Agate and Elk	"	"	6	62
1697	Agate, 250 ft. S of Granite	"	"	6	53
1698	Pleasant and St. Albans	"	"	12	66
1699	Hoffman and Hudson	"	"	6	78
1700	St. Albans 300 ft. S. of Fairmount	"	"	12	51
1701	Winnifred and Winslow	Low	"	6	25
1702	Winnifred and Bidwell	"	"	6	21
1703	Winnifred and Bellows	"	"	6	21
1704	Wacouta bet. Third and Fourth	"	Double	6	62
1705	Fourth and Sibley, N. E. corner	"	"	6	55
1706	Sibley and Union depot	"	Single	4	70
1707	Evergreen and Victoria	High	"	6	36
1708	Evergreen and Milton	"	"	6	47
1709	Sherburne and Milton	"	"	6	49
1710	Sherburne and Chatsworth	"	"	6	51
1711	Sixth bet. Sibley and Wacouta	Low	"	4	48
1712	Dearborn and Livingston	"	"	6	20
1713	Charles and Milton	High	"	6	50
1714	Charles and Victoria	"	"	6	49
1715	Fifth and Broadway, N. E. corner	Low	Double	6	57
1716	Fifth and Pine	"	Single	6	55
1717	Fifth and Olive	"	"	6	56
1718	Edmund and Avon	High	"	6	52
1719	Edmund and Victoria	"	"	6	50
1720	Edmund and Milton	"	"	6	48
1721	Woodward and John	Low	"	4	40
1722	Grand avenue and Lexington	High	"	6	40
1723	Leslie and Milton	"	"	6	36
1724	Leslie and Chatsworth	"	"	6	31
1725	Thomas and Victoria	"	"	6	51
1726	Thomas and Milton	"	"	6	50
1727	Thomas and Chatsworth	"	"	6	52
1728	Thomas and St. Albans	"	"	6	50
1729	Thomas and Grotto	"	"	6	51
1730	Lafond and Avon	"	"	6	48
1731	Lafond and Victoria	"	"	6	50
1732	Randolph and Webster	Low	"	6	42
1733	Yankee and Ann	"	"	4	40
1734	Van Buren and Victoria	High	"	6	42
1735	Van Buren and Avon	"	"	6	48
1736	Van Buren and Grotto	"	"	6	52
1737	Van Buren and St. Albans	"	"	6	55
1738	Van Buren and Kent	"	"	6	57
1739	Van Buren and Mackubin	"	"	6	56
1740	Congress and Winslow	Low	"	6	24
1741	Congress and Bidwell	"	"	6	24
1742	Congress and Bellows	"	"	6	21
1743	Congress and Charlton	"	"	6	19
1744	Fred in rear of Lincoln school	"	"	4	19
1745	View and Watson	"	"	6	33
1746	Watson and Victoria	"	"	6	20
1747	Watson and Milton	"	"	6	28
1748	Watson and Chatsworth	"	"	6	27
1749	Wabasha, head of Eighth	"	Double	6	33

LIST OF HYDRANTS—Concluded.

No.	Location.	Service.	Double or Single Steam'r	Size of Pipe.	Pressure at Hydrant.
1750	Fifth and Market	Low	Single	4	32
1751	Logan and Canton	"	"	6	34
1752	Logan and Orrin	"	"	6	35
1753	Elfelt and Blair	High	"	4	60
1754	Fourth E. of St. P. & D Ry	Low	Double	12	70
1755	Manitoba and Rice	High	Single	6	62
1756	Manitoba and Park	"	"	6	60
1757	Manitoba and Sylvan	"	"	6	56
1758	Front and Sylvan	"	"	6	46
1759	Front and Park	"	"	6	59
1760	Fuller and St. Albans	"	"	6	46
1761	Auburn and Prior	"	"	6	39
1762	Auburn 500 ft. E. of Prior	"	"	6	38
1763	Wacouta and Fourth	Low	Double	6	59
1764	Dayton and Snelling	High	Single	6	29
1765	Dayton and Fry	"	"	6	32
1766	Dayton and Pierce	"	"	6	33
1767	Dayton and Herschel	"	"	6	33
1768	Dayton and Wheeler	"	"	6	32
1769	Dayton and Fairview	"	"	6	30
1770	Wacouta and Fifth, N. W. corner	Low	Double	6	52
1771	Fifth midway bet. Sibley and Wacouta	"	Single	4	51
1772	Sibley and Fifth, N. E. corner	"	Double	6	49
1773	Fry and Minnehaha	High	Single	4	28
1774	Fry and Territorial road	"	"	4	30
1775	Van Buren and Fry	"	"	6	28
1776	Van Buren and Aldine	"	"	6	27
1777	Van Buren and Wheeler	"	"	6	29
1778	Sibley bet. Third and Fourth	Low	Double	6	56
1779	Lawson and Greenbrier	High	Single	6	57
1780	Lawson and Walsh	"	"	6	42
1781	Lawson and Weide	"	"	6	48
1782	Lawson and Mendota	"	"	6	47
1783	Raymond and Tainter	"	"	6	37
1784	Maryland and Arcade	"	"	6	44
1785	Maryland and Weide	"	"	6	46
1786	Maryland and Walsh	"	"	6	45
1787	Maryland and Greenbrier	"	"	6	44
1788	Maryland and Edgerton	"	"	6	36
1789	Erie and Clay	Low	"	6	35
1790	Erie and Grace	"	"	6	33
1791	Erie and St. Clair	"	"	6	31
1792	Forrest 200 ft. S. of Wells	High	Double	6	63
1793	Congress and Kansas City Ry	Low	Single	4	50
1794	Avon and Martin	High	"	4	49
1795	Wacouta and Sixth	Low	Double	6	49
1796	Linwood and Grotto	High	Single	6	34
1797	Ashland and Chatsworth	"	"	6	32
1798	Stinson and Western	"	"	6	49
1799	Third at west end of bridge	Low	Double	12	69
1800	Minnehaha and Rivoli	"	Single	6	5
1801	Linden head of Glencoe	High	"	6	41
1802	Linden and Arch	"	"	6	53
1803	Concord and Curtiss	Low	"	12	67
1804	Concord 400 ft. N. of Curtiss	"	Double	12	68
1805	Concord and Page	"	"	12	69
1806	Concord and Witham	"	Single	12	66
1807	Concord and Hoyt	"	"	12	64
1808	Winslow and Prospect terrace	"	"	6	21
1809	Duluth and Omaha Ry.	High	"	6	56
1810	Jessamine and Rice	"	"	6	57
1811	Jessamine and Sylvan	"	"	6	48
1812	Winnipeg and Sylvan	"	"	6	61
1813	Aurora and Chatsworth	"	"	6	48

Number of fire hydrants placed this year on low service	23
Number of fire hydrants placed this year on high service	42
Total number placed this year	65
Total number placed to date on low service	673
Total number placed to date on high service	1,140
Grand total	1,813

Of which 67 are on low and one on high service are double steamers.
Only two of the old Holly hydrants remain in use; the balance are Mathews.

LIST OF STREET SPRINKLING HYDRANTS.

No.	Location.	Measurement of Valve from Hydrant.	Name of Hydrant.
1	Sixth and Sibley	10 feet	Stand pipe
2	Fifth and Wacouta	7½ "	"
3	Wacouta and Third	6 "	"
4	Fort and Third	5 "	"
5	Third and Jackson	5 "	"
6	Minnesota and Third	5 "	"
7	Fifth and Robert	6 "	"
8	Robert and Seventh	7 "	"
9	Wacouta and Seventh	6 "	"
10	Ninth and Cedar	7 "	"
11	Eighth and Broadway	6 "	"
12	John and Seventh	6 "	"
13	Walnut and Seventh	5 "	"
14	Kittson and Seventh	8 "	"
15	Ninth and St. Peter	5 "	"
16	Pine and Tenth	9 " east 30 " south	"
17	Pine and Grove	3 "	"
18	Waverly and Westminster	5 "	"
19	Leech and Seventh	In tunnel	"
20	Broadway and Fourth	7 feet	"
21	Cedar and Seventh	8 "	"
22	College and Wabasha	8 "	"
23	College and Tenth	8 " north 7 " east	"
24	Pleasant and Third	35 " south 7 " west	"
25	St. Peter and Third	In tunnel	"
26	Franklin and Fourth	In tunnel	"
27	Goodrich and Seventh	16 feet	"
28	Eleventh and Robert	4 "	"
29	Mt. Airy and Mississippi	6 "	"
30	Burr and Collins	11 "	"
31	Bradley and Woodward	7 "	"
32	Martin and Western	8 "	"
33	St. Albans and Portland	9 "	"
34	Portland and Summit	31 "	Holly
35	Laurel and Farrington	6 "	Stand pipe
36	St. Clair and Seventh	10½ "	"
37	Pleasant and Oakland	31 " south 32 " east	"
38	Mackubin and Selby	28 "	"
39	Summit and Nelson	10 "	"
40	Mackubin and Summit	14 "	"
41	Dale and Marshall	8 "	"
42	Dale and Ashland	27 "	"
43	Dale and Grand	10 "	"
44	Marshall and Western	3 "	"
45	Rondo and Rice	9 "	"
46	Central and Wabasha	7½ "	"
47	Mackubin and University	8 "	"
48	University and Rice	8 "	"
49	Bates and Seventh	6 "	"
50	Hudson and Maria	7 "	"
51	Mendota and Fauquier	7 "	"
52	Oneida and Seventh	8 "	"
53	Third and Bates	8 "	"
54	Fifth and Maria	8 "	"
55	Chestnut and Franklin	8½ "	"
56	Twelfth and Jackson	35 "	"
57	Wacouta and Tenth	5 "	"
58	Arundel and Holly	29 " south 6 " east	"
59	Sherman and Smith	10 "	"
60	Cedar and Aurora	27 "	"
61	Sixth and Wabasha	In tunnel	"
62	Eichenwald and Seventh	9 feet	"
63	Sinnen and Seventh	9 "	"
64	Reaney and Seventh	8 "	"
65	Earl and Seventh	6 "	"

LIST OF STREET SPRINKLING HYDRANTS—Continued.

No.	Location.	Measurment. of Valve from Hydrant.	Name of Hydrant.
66	Locust and Ninth	11 feet	Stand pipe
67	Walnut and Summit	52 "	Holly
68	Ninth and Fort	8 "	Stand pipe
69	Grove and Canada	5 "	"
70	Mendota and Seventh	9 "	"
71	Jackson and Fourteenth	9 "	"
72	John and Fourth	6 "	"
73	Maple and Conway	8 "	"
74	Farrington and Carroll	20 "	"
75	Topping and Como		
76	Viola and Grant	26 "	"
77	Capitol and Western		
78	Acker and Mississippi	6 "	"
79	Payne and Minnehaha	10 "	"
80	Fairfield and Dakota	8½ "	"
81	Audubon and Seventh	8 "	"
82	Rice and Como	8 "	"
83	Rice and G. N. Ry	7 "	"
84	Williams and Pine	22 "	"
85	Olmsted and Olive	33 "	"
86	Neill and Fifth	12 " west 36 " south	"
87	Canada and University	23 "	"
88	Warren and Valley	4 " east 32 " west	"
89	Gaultier and University	7 " east 34 " south	"
90	Virginia and University	3 " east 33 " south	"
91	Farrington and Nelson	25 " west	"
92	Oakland and Floral	6 "	"
93	Mackubin and Iglehart	8 "	"
94	Acker and Elk	6 "	"
95	Summit and Cedar	7 " south 12 " west	"
96	Iglehart and St. Peter	12 "	"
97	Ninth and Jackson	29 " north	"
98	Sherman and Exchange	7 "	"
*99	Summit Place and Iglehart	22 "	"
100	Summit Place and Martin	18 "	"
101	Jay and Fuller	8 "	"
102	Dale and University	8 "	"
103	St. Albans and Hague	7 "	"
104	Hoffman and Sixth	8 "	"
105	Hoffman and Cherry	10 "	"
106	River and Hoffman	10 "	"
107	University and Snelling	31 "	"
108	Carroll and Dale	5 "	"
109	Grand and Floral	30 "	"
110	Dale and Selby	9 "	"
111	Farrington and Sherburne	7 "	"
112	Mackubin and Fuller	5 "	"
113	Mackubin and St. Anthony	9 "	"
114	Harrison and Garfield	10 "	"
115	Charles and Western	10 "	"
116	Marion and Charles	8 "	"
117	Granite and Mississippi	9 "	"
118	Sixth and Broadway	7 "	"
119	Minnehaha and Burr	13 " north 26 " east	"
120	Bedford and Decatur	30 "	"
121	Burr and Hopkins	6 "	"
122	Maple and Hudson	7 "	"
123	Goodhue and Richmond	12 "	"
124	Duke and Seventh	7 "	"
125	Earl and Minnehaha	7 "	"
126	Arcade and Reaney	7 "	"
127	Otsego and Lafayette	6 "	"
128	Cedar and Fifth	7 "	"
129	Grotto and Dayton	6 "	"

LIST OF STEEET SPRINKLING HYDRANTS—Continued.

No.	Location.	Measurement of Valve from Hydrant.	Name of Hydrant.
130	Grove and Monroe Place	5 feet	Stand pipe
131	Fauquier and Weide	9 "	"
132	Arundel and Rondo	9 "	"
133	Arcade and York	7 "	"
134	Broadway and Thirteenth	6 "	"
135	Robert and University	10 "	"
136	Como and Elfelt	10 "	"
137	Congress and Robert	8 "	"
138	Lee and Bay	9 "	"
139	Fillmore and Robert	7 "	"
140	Grotto and Grand	6 "	"
141	Robert and Wood	9 "	"
142	Anita and Concord	7 "	"
143	Robie and Concord	37 "	"
144	Reaney and Greenbrier	8 "	"
145	Victoria and Summit	43 " south	"
146	Dakota, South of Channel	8 "	"
147	Isabel and Dakota	6 "	"
148	Chicago and Robert	8 "	"
149	Sherburne and Park	3 "	"
150	Virginia and Rondo	7 "	"
151	Front and Dale	5 "	"
152	Lafond and Western	8 "	"
153	Front and Rice	6 "	"
154	Kent and Laurel	4 "	"
155	Grotto and Holly	6 "	"
156	Western and Goodrich	8 "	"
157	Cook and Payne	7 "	"
158	York and Payne	6 "	"
159	University and Victoria	28 "	"
160	University and Lexington	28 "	"
161	Third and John	10 "	"
162	Tuscarora and Seventh	7 "	"
163	Elfelt and Edmund	8 "	"
164	Mackubin and Edmund	9 "	"
165	Dale and Martin	8 "	"
166	Whitall and Burr	31 "	"
167	Mississippi and Case	9 "	"
168	Mississippi and Jessamine	7 "	"
169	University and Hamline	28 "	"
170	Taylor and Snelling	9 "	"
171	Van Buren and Snelling	7 "	"
172	Prior and Oakley	31 "	"
173	St. Anthony and Terrace Park Avenue	30 "	"
174	Iglehart and Prior	5 "	"
175	Jackson and Arch	30 "	"
176	Grotto and Carroll	9 "	"
177	Franklin and Sixth	4 "	"
178	Duluth and Seventh	8 "	"
179	Cypress and Euclid	8 "	"
180	State and Tennessee	31 " south 12 " east	"
181	Osceola and Pleasant	7 "	"
182	Raymond and Bayless Place	14 "	"
183	Raymond and University	7 "	"
184	University and Pillsbury	21 "	"
185	Raymond and Gordon	35 "	"
186	Lexington and Van Slyke	35 "	"
187	Fairview and University	11 "	"
188	Chatsworth and University	6 "	"
189	Grotto and Sherburne	7 "	"
190	Whitall and Edgerton	30 "	"
191	Edgerton and Jenks	31 "	"
192	Snelling and Summit	25 "	"
193	Indiana and Hyde	7 "	"
194	Dale and Charles	4 "	"
195	Mt. Hope and Prescott	75 " north 7 " west	"
196	Greenbrier and Edgerton	33 "	"
197	Jessamine and Greenbrier	33 "	"

LIST OF STREET SPRINKLING HYDRANTS—Concluded.

No.	Location.	Measurement of Valve from Hydrant.		Name of Hydrant.
[illegible]	Case and Barr	30	feet	Stand pipe
[illegible]	Victoria and Goodrich	[illegible]	"	"
[illegible]	Grotto and Goodrich	30	" south	"
[illegible]		9	" west	"
[illegible]	Dale and Goodrich	12	"	"
[illegible]	Clifton and Goodrich	[illegible]	"	"
[illegible]	Midway and Woodbury	12	"	"
[illegible]	Osmond and Andrew	[illegible]	"	"
[illegible]	Greenbrier and Case	6	"	"
[illegible]	Park and De Soto	12	"	"
[illegible]	Westminster and Lookout place	[illegible]	"	"
[illegible]	Mound and Hastings	[illegible]	"	"
[illegible]	Carroll and Arundel	[illegible]	"	"
[illegible]	Tully and James	[illegible]	"	"
[illegible]	Minnehaha and Rose	[illegible]	"	"
[illegible]	Randolph and Fulton	[illegible]	"	"
[illegible]	McBoal and South avenue	[illegible]	"	"
[illegible]	Congress and State	[illegible]	"	"
[illegible]	Milford and Rose	[illegible]	"	"
[illegible]	Rosemore and Jackson	[illegible]	"	"
[illegible]	Minnehaha and Dale	[illegible]	"	"
[illegible]	Fourth and St. P. & D. Ry	[illegible]	"	"
[illegible]	Forest and York	[illegible]	"	"
[illegible]	Rosemore and Park	[illegible]	"	"
[illegible]	Milford and Kent	[illegible]	"	"
[illegible]	Dale and St. Clair	[illegible]	"	"
[illegible]	Eagle and Washington	[illegible]	"	"
[illegible]	Rosemore and Stewart	[illegible]	"	"
[illegible]	Victoria between Smith and Sugar	[illegible]	"	"
[illegible]	Bellows and Winnifred	[illegible]	"	"

Number placed this year 31
Total placed to date 28[illegible]

LOCATION OF VALVES (LOW SERVICE.)

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
Alabama	East line of State			1						
Armstrong	East and west line of Seventh			2						
Armstrong	East and west line of Victoria			2						
Audubon	East line of Seventh			1						
Ada	North line of Robie		1							
Banfil	East and west line of Seventh		2							
Banfil	West line of Western		1							
Bay	South line of Seventh			1						
Bay	South line of Lee			1						
Bay	South line of Tuscarora			1						
Bay	North line of Stewart			1						
Beaumont	East line of De Soto			1						
Beaumont	East and west line of Bedford			2						
Becker Pl	South line of Lafayette			1						
Bedford	North line of North			1						
Bedford	South line of Minnehaha			1						
Bradley	North line of Partridge			1						
Bradley	North line of Beaumont		1							
Broadway	On hydrant in Mil. Freight Yard		1							
Broadway	N. & S. line of Third M. H. & B. O.	1	1			2				
Broadway	N. & S. line of Seventh M. & H.		1	2		1		1		
Broadway	Blow off at Ninth			1						
Broadway	South line of Grove			2				1		
Broadway	North line of Thirteenth		1							
Bruno	East line of Lafayette			1						
Burr	South line of Hopkins			1						
Burr	South line of North			1						
Burr	North line of Collins			1						
Burr	North line of Beaumont			1						
Burr	South line of Fauquier			1						
Bancroft	North line of Concord			1						
Bancroft	North line of Robie			1						
Bancroft	North line of Winnifred			1						
Bidwell	South line of Isabel			1						
Canada	North line of Ninth			1						
Canada	North and south line of Grove			2						
Cedar	North line of Third				1					
Cedar	Blow off at Sixth	1								
Cedar	North and South line of Seventh				2					
Cedar	Blow off at Eighth	1								
Cedar	South line of Tenth				1					
Cedar	North and South line of Twelfth			1			1			
Chestnut	North line of Franklin			1						
Chestnut	South line of Seventh			1						
Colborne	North line of Seventh			1						
Colborne	North line of St. Clair			1						
College	West line of Cedar			1						
College	West line of Wabasha			1						
College	West line of St. Peter			1						
College	West line of Tenth			1						
Collins	West line of Bedford			1						
Collins	East line of Lafayette			1						
Concord	East line of Bancroft				1					
Concord	East and West line of State				2					
Concord	South line of Isabel				1					
Concord	West line of Hoyt				1					
Congress	West line of Anita			1						
Congress	East and West line of State			2						
Congress	East line of Clinton			1						
Congress	East and West line of Concord			2						
Congress	East line of Wabasha			1						
Congress	West line of Goff			1						
Congress	East line of Stryker			1						
Congress	East line of Winslow			1						
Congress	East line of Bellows			1						
Chicago	East and West line of Starkey			2						
Colorado	West line of Clinton			1						
Colorado	East line of Livingston			1						
Clinton	South line of Congress			1						
Decatur	East line of Bedford			1						

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
De Soto	South line of Collins			1						
Douglas	North and south line of Seventh			2						
Douglas	South line of Lisbon			1						
Duke	South line of Seventh			1						
Duke	South line of Jefferson			1						
Dousman	South line of Goodhue			1						
Dousman	North line of Von Minden			1						
Delos	West line of Clinton			1						
Delos	East line of Livingston			1						
Delos	East and west line of Starkey			2						
Delos	East line of Stryker			1						
Daly	North line of James			1						
Eagle	North line of Washington			1						
Eagle	South line of Exchange			1						
Eagle	South line of Seventh			1						
Eighth	112 ft. E. of Neill B. O.	1								
Eighth	East and west line of Locust		2							
Eighth	East and west line of Broadway		4							
Eighth	West line of Sibley		1							
Eighth	East and west line of Jackson		2							
Eighth	East line of Minnesota		1							
Eighth	East and west line of Cedar		2							
Eighth	East line of Wabasha		1							
Eleventh	East line of Broadway		2							
Eleventh	West line of Jackson			1						
Eleventh	West line of Robert			1						
Eleventh	East line of Cedar			1						
Elm	East line of Exchange		1							
Exchange	East and west line of St. Peter		2							
Exchange	South line of Ninth		1							
Exchange	North line of Seventh		1							
Exchange	North and south line of Third		2							
Exchange	South line of Eagle		1							
Exchange	South line of Chestnut		1							
Exchange	North line of Sherman		1							
Exchange	Center of Wilkin		1							
Edgerton	North line of Minnehaha			1						
Erie	North line of Seventh			1						
Fairfield	West line of State			1						
Fairfield	East line of Eva			1						
Fairfield	West line of Eton			1						
Fairfield	West line of Hubert			1						
Fairfield	East and west line of Starkey			2						
Fairfield	West line of Dakota			1						
Pauquier	East line of De Soto				1					
Fifth	West line of Neill			1						
Fifth	West line of Willius			1						
Fifth	East line of John			1						
Fifth	West line of Olive			1						
Fifth	East and west line of Broadway		1	1						
Fifth	West line of Rosabel		1							
Fifth	East line of Sibley		1							
Fifth	East and west line of Jackson		2							
Fifth	East line of Minnesota		1							
Fifth	East and west line of Cedar		2							
Fifth	East and west line of Wabasha		1	1						
Fifth	West line of St. Peter		1							
Fifth	West line of Washington		1							
Fifth	East line of Seventh		1							
Fifth	East and west line of Fort		2							
Fifth	East line of Smith avenue		1							
Fort	North line of Third M. H. & B. O.		2				1			
Fort	South line of Fifth or H		1							
Fort	South line of Sixth or H		1							
Fort	South line of Ninth M. & H		1				1			
Fort	On H. bet. Ninth and Tenth		1							
Fourth	East of St. P. & D. Ry. or H			1						
Fourth	East and west line of Kittson				2					
Fourth	B. O. at Neill	1								
Fourth	West line of Locust				1					

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
Fourth	East and West line of Broadway			1	1					
Fourth	West line of Rosabel			1						
Fourth	West line of Wacouta			1						
Fourth	East and West line of Jackson			2						
Fourth	East line of Minnesota			1						
Fourth	East and west line of Cedar			2						
Fourth	West line of Wabasha			1						
Fourth	West line of Market			1						
Fourth	East line of Franklin			1						
Fourteenth	East and west line of Canada			2						
Fourteenth	East line of Jackson			1						
Franklin	North line of Sherman		1							
Franklin	North line of Irvine Park drive		1							
Franklin	North line of Third		1							
Franklin	North line of Fourth		1							
Franklin	North and south line of Seventh		2							
Franklin	South line of Ninth		1							
Fillmore	West line of State			1						
Fillmore	East line of Eva			1						
Fillmore	East line of Robert			1						
Fillmore	West line of Hubert			1						
Fillmore	East and west line of Starkey			2						
Fred	East line of Burr		1							
Garfield	North line of Goodrich			1						
Goodhue	East and west line of Seventh			2						
Goodhue	East line of Richmond			1						
Goodrich	E. and W. line of Sev'th M. & B. O.	1		1	1					
Grace	East line of Seventh			1						
Grove	West line of Lafayette			1						
Grove	W. line and cen. Miss. M. H. & B O.		2				2			
Grove	West of Canada on H		1							
Grove	East line of Jackson						1			
Glencoe	West line of Mississippi			1						
Glencoe	East line of Columbia			1						
George	West line of State				1					
George	West line of Livingston				1					
George	East line of Stryker				1					
Goff	North line of Winnifred			1						
Harrison	West line of Douglas			1						
Harrison	West line of Garfield			1						
Hopkins	West line of Bradley			1						
Hopkins	East line of De Soto			1						
Hall	North line of George			1						
Hall	North line of Robie			1						
Hall	South line of Congress			1						
Hall	North and South line of Isabel			2						
Hall	South line of Colorado			1						
Indiana	West line of State					1				
Indiana	West line of Eton					1				
Indiana	East and West line of Starkey				1	1				
Indiana	West line of Water				1					
Isabel	West line of State				1					
Isabel	East and West line of Starkey				2					
Isabel	West line of Winslow				1					
Jackson	N. line of Levee & Levee M. & B. O	1	1							
Jackson	South line of Fourth				1					
Jackson	North and south line of Seventh				2					
Jackson	South line of Ninth				1					
Jackson	South line of Twelfth				1					
Jackson	North line of Grove			1						
Jackson	South line of Fourteenth			1						
Jefferson	West line of Seventh				1					
James	East and west line of Seventh			2						
Jessie	South line of Fauquier			1						
John	North line of Third			1						
John	North line of Fourth			1						
John	North line of Fifth			1						
John	North and south line of Seventh		1	1						
John	South line of Tenth		1							
John	North and South line of Grove		2							

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	8-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
John	North and south line of Olmsted			2						
Kittson	North line of Fourth			1						
Kittson	North line of Fifth			1						
Kittson	South line of Seventh			1						
Kentucky	East line of State			1						
Lafayette	North line of Woodward on H		1							
Lafayette	N. and S. line of Bruno M. & B. O.	1	1			2				
Lafayette	Northern Pacific track B. O.		1							
Lafayette	South line of Coutts					1				
Lee Avenue	East line of Seventh			1						
Lee Avenue	West line of Warsaw			1						
Leech	North line of Goodrich			1						
Leech	North line of McBeal			1						
Leech	North line of Seventh			1						
Leech	15 ft. S. of North line of Ramsey			1						
Locust	North line of Seventh M & H			1			1			
L'Orient	North line of Thirteenth			1						
L'Orient	South line of Mt. Airy			1						
L'Orient	North line of Glencoe			1						
Livingston	North line of Delos			1						
Lisbon	West line of Douglas			1						
Logan	East line of Canton			1						
McBeal	West line of Wilkins			1						
McBeal	East line of Smith avenue			1						
McBeal	East and west line of Seventh			2						
Magnolia	Center of Mississippi			1						
Marcet	North line of Third		1							
Minnehaha	East line of Jessie			1						
Minnehaha	East line of Rurr			1						
Minnehaha	East and west line of De Soto			1						
Minnesota	North line of Third			1						
Minnesota	South line of Fifth			1						
Minnesota	North and south line of Seventh		1	1						
Minnesota	South line of Tenth			1						
Minnesota	South line of Eleventh		1							
Minnesota	South line of Twelfth		1							
Mississippi	North line of Grove M. & B. O			5					1	
Mississippi	North line of Nash			1						
Mississippi	North line of Glencoe			1						
Mississippi	South line of Minnehaha			1						
Mississippi	S. of N. abutment of G. N. Ry. B. O			1						
Mississippi	South of Capitol M. H. & L			2					1	
Mississippi	South of Cayuga D. H. & L			2						
Mississippi	North of N. P. Ry. M. & B. O			3						
Mississippi	North and south line of Magnolia			2					1	
Mt. Airy	West of Mississippi			1						
Mt. Ida	West line of De Soto			1						
Morrison	West line of Seventh			1						
Navigation	South line of Nash		1							
Nawadaha	West line of Woodward									
Nawadaha	East line of Oakland			1						
Nash	East and west line Mississippi			4						
Nash	North line of Seventh		1							
Nash	West line of Nash		1							
Nash	East and west line of Locust		1							
Nash	East and west line of Broadway			4						
Nash	West line of Nash			1						
Nash	East and west line of Clarkson			2						
Nash	East line of Nash			1						
Nash	East and west line of Lowell			2						
Nash	East line of Washington		2							
Nash	West line of Nash			1						
Nash	East and west line of Fort			2						
Nash	East line of Nash		1							
Nash	East line of Tower avenue		1							
Nash	West line of Nash			1						
Olive	South line of Seventh		1							
Olive	North and south line of Grove		2							
Olive	South line of Lowell		1							
Olive	North line of Hodgen H. & L. sect.			2						

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch	20-inch.	24-inch.	30-inch.	36-inch.
Oneida	South line of Seventh			1						
Otsego	North line of Lafayette			1						
Oakdale	South line of Prescott			1						
Partridge	West line of Bradley		1							
Pine	North line of Ninth		1							
Pine	North line of Grove			1						
Pine	South line of Olmsted			1						
Pleasant	East and west line of Third			2						
Pleasant	East line of Walnut			1						
Pleasant	West line of Thompson			1						
Prince	East line of Broadway			1						
Payne	North line of Minnehaha			1						
Payne	South line of Fauquier			1						
Pen'sylv'nia	East and west line of Mississippi			3						
Pen'sylv'nia	West line of L'Orient			1						
Preble	North line of Beaumont			1						
Prescott	East line of Oakdale			1						
Ramsey	West line of Seventh					1				
Ramsey	West line of Thompson			1						
Ramsey	East line of Pleasant			1						
Randolph	East and west line of Seventh			1	1					
Randolph	East and west line of Victoria				2					
Richmond	South line of Seventh			1						
Right of w'y	North of Maryland B. O			1						
Right of w'y	B. O. 300 ft. S. of Como & Phalen			1						
Right of w'y	S. line Como & Phalen, M. & B. O			1					1	
Right of w'y	B. O. 2,000 ft. N. of Como & Phalen			1						
Right of w'y	At pumping station, M. & B. O			1					1	1
Robert	North line of Louisa			1						
Robert	South line of George			1						
Robert	North line of Concord			1						
Robert	North and south line of Isabel			2						
Robert	North line of Delos			1						
Robert	North line of Colorado			1						
Robert	South line of Plato			1						
Robert	South line of Chicago			1						
Robert	North and south line of Indiana			2						
Robert	North line of Fairfield			1						
Robert	North and south line of Third			2						
Robert	North line of Fourth			1						
Robert	North line of Fifth			1						
Robert	North and south line of Seventh			2						
Robert	North line of Eighth			1						
Robert	North line of Ninth			1						
Robert	South line of Eleventh			1						
Robert	North and south line of Twelfth			2						
Robert	South line of Fourteenth			1						
Reaney	West line of Payne			1						
Rosabel	South line of Fourth			1						
Rosabel	North line of Fifth			1						
Rosabel	South line of Seventh			1						
Robie	West line of Anita			1						
Robie	East line of State			1						
St. Clair	East line of Seventh			1						
St. Peter	North line of Third			1						
St. Peter	North line of Fourth			1						
St. Peter	South line of Sixth			1						
St. Peter	North and South line of Seventh			2						
St. Peter	North and south line of Tenth			2						
St. Peter	N. line of College, D. H. & L. serv			1						
Seventh	West line of Kittson			1						
Seventh	East and west line of Locust			1		1				
Seventh	East and west line of Broadway					2				
Seventh	East and west line of Jackson					2				
Seventh	Center of Robert, B. O	1								
Seventh	East line of Wabasha					1				
Seventh	East line of St. Peter				1					
Seventh	East line of Third				1					
Seventh	West line of Eagle					1	1			
Seventh	West line of Chestnut on H			1						

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch.	36-Inch.
Seventh	At Walnut, H. & R. O.	1		2						
Seventh	N. and S. line of Ramsey, M. & H			1	[illegible]	1	1			
Seventh	West line of Leech				1					
Seventh	South line of McB[illegible]al					1				
Seventh	At Goodrich, R. O.	1								
Seventh	North line of Yankee					1				
Seventh	South line of M[illegible] Ry., M & H.		1			1				
Seventh	At Jefferson, H. & R. O	1	1							
Seventh	South line of Palace					1				
Seventh	At James, R. O.	[illegible]								
Seventh	South line of Audubon					1				
Seventh	At Lee, R. O	[illegible]								
Sherman	South line of Exchange			[illegible]						
Sherman	South line of W[illegible]			[illegible]						
Sherman	North and south line of Seventh			[illegible]						
Sherman	South line of Pleasant			[illegible]						
[illegible]	North and south line of [illegible]		[illegible]	[illegible]						
[illegible]	South line of F[illegible]			1						
[illegible]	North and south line of Seventh		[illegible]	[illegible]						
[illegible]	North line of N[illegible]		[illegible]							
[illegible]	North line of Tenth		[illegible]							
[illegible]	North line of Spruce		[illegible]							
Sixth	West line of K[illegible]		[illegible]							
Sixth	West line of N[illegible]		[illegible]							
Sixth	West line of W[illegible]		[illegible]							
Sixth	East line of [illegible]		[illegible]							
Sixth	East line of [illegible]		[illegible]							
Sixth	East and west line of Broadway		[illegible]							
Sixth	West line of [illegible]		[illegible]							
Sixth	East line of S[illegible]		[illegible]							
Sixth	East and west line of [illegible]		[illegible]							
Sixth	East line of [illegible]		[illegible]							
Sixth	East line of W[illegible]		[illegible]							
Sixth	East and west line of [illegible]		[illegible]							
Sixth	East and west line of W[illegible]		[illegible]							
Sixth	East line of Washington			[illegible]						
Sixth	South line of Seventh			[illegible]						
Sixth	East line of Exchange			[illegible]						
Sixth	East and west line of First			[illegible]						
Sixth	North line of Sixth avenue			[illegible]						
Sixth street	West line of W[illegible]			[illegible]						
Sixth street	East and west line of Seventh			[illegible]						
Sixth street	West line of Sixth avenue			[illegible]						
Sixth ave.	North and south line of Seventh			[illegible]						
Sixth ave.	[illegible] Sixth avenue			[illegible]						
Sixth ave.	[illegible]			[illegible]						
Sixth ave.	North line of Sherman			[illegible]						
Sixth ave.	North line of W[illegible]			[illegible]						
Sixth ave.	North and south line of [illegible]			[illegible]						
Sixth ave.	[illegible]			[illegible]						
[illegible]	[illegible]									
[illegible]	[illegible]		[illegible]							
[illegible]	[illegible]					[illegible]				
[illegible]	[illegible]					[illegible]				
[illegible]	[illegible]					[illegible]				
[illegible]	[illegible]					[illegible]				
[illegible]	[illegible]					[illegible]				
[illegible]	[illegible]									
[illegible]	[illegible]									
[illegible]	[illegible]									
[illegible]	[illegible]									
[illegible]	[illegible]			[illegible]						
[illegible]	[illegible]									
[illegible]	[illegible]		[illegible]							
[illegible]	[illegible]		[illegible]							
[illegible]	[illegible]									
[illegible]	[illegible]		[illegible]	[illegible]						
[illegible]	[illegible]									
[illegible]	[illegible]		[illegible]							
[illegible]	West [illegible]									

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
Tenth	E. and west line of Cedar. M. & H.		1	1						
Tenth	Center of Wabasha, B. O.		1							
Tenth	West line of St. Peter						1			
Tenth	West line of St. Peter on hydrant.		1							
Tenth.	West line of Fort			1						
Third	East and west line of Broadway				2					
Third	East line of Wacouta				1					
Third	East and west line of Jackson				2					
Third	West line of Minnesota				1					
Third	East line of St. Peter				1					
Third	East and west line of Washington				2					
Third	North and south line of Seventh			2						
Thirteenth	West line of Pine		1							
Thirteenth	East and west line of Mississippi			4						
Thirteenth	East and west line of Canada			2						
Thirteenth	East line of Jackson			1						
Thompson	North line of Ramsey			1						
Twelfth	East line of Broadway		2							
Twelfth	West line of Jackson, M. & B. O.		2							
Twelfth	West line of Minnesota on H.		1							
Twelfth	East line of Cedar on H.		1							
Toronto	North and south line of Seventh			2						
Tennessee	East line of State			1						
Tuscarora	West line of Warsaw			1						
Tuscarora	East and west line of Seventh			2						
Tuscarora	West line of Victoria			1						
Von Minden	East line of Western			1						
View	North line of Seventh			1						
View	South line of Armstrong			1						
View	South line of Juno			1						
View	South line of Randolph			1						
Wacouta	North line of Third			1						
Wacouta	South line of Fifth			1						
Wacouta	South line of Sixth			1						
Wacouta	North and south line of Seventh				2					
Wacouta	North line of Eighth		1							
Wacouta	North line of Tenth		1							
Walnut	South line of Exchange		1							
Walnut	North and south line of Seventh		2							
Walnut	South line of Pleasant		1							
Warsaw	South line of Seventh			1						
Washington	North line of Chestnut		1							
Washington	North and south line of Third				2					
Washington	North line of Fourth		1							
Washington	North line of Fifth		1							
Waverly pl	West line of Lafayette			1						
Waverly pl	East line of John			1						
Webster	South line of Seventh			1						
Webster	North line of Jefferson			1						
Western	North and south line of Seventh			2						
Western	North line of Goodhue			1						
Western	North and south line of Goodrich			2						
Western	North line of Harrison			1						
Willius	North line of Fifth		1							
Willius	South line of Seventh		1							
Wilkin	North line of Smith			1						
Winnifred	East line of Bancroft			1						
Winnifred	West line of Anita			1						
Winni red	East and west line of State			2						
Winnifred	East line of Clinton			1						
Winnifred	East line of Concord			1						
Winnifred	West line of Hall			1						
Winnifred	East line of Winslow			1						
Winnifred	East line of Bellows			1						
Woodward	West line of Lafayette		1							
Woodward	West line of Bradley		1							
Wabasha	North and south line of Isabel			2						
Wabasha	North line of Colorado			1						
Wabasha	North line of Plato			1						
Wabasha	North and south line of Indiana			2						

LOCATION OF VALVES LOW SERVICE—Concluded.

Street.	Location.	3 inch.	4 inch.	6 inch.	12 inch.	16 inch.	20 inch.	24 inch.	30 inch.	36 inch.
Wabasha	North and south line of Third			2						
Wabasha	South line of Fifth			1						
Wabasha	At Seventh			1						
Wabasha	North line of Ninth			1						
Wabasha	North and south line of Tenth			2						
Wabasha	North line of College			1						
Warren	East and west line of Warren			2						
Winslow	North line of Isabel			1						
Yankee	West line of Dousman		2							
Yankee	East line of Seventh		2							
M. line, old	Gate house at Lake Phalen							1		
M. line, old	S. line of Omaha Ry. K. V. & B.			2						
M. line, old	Seventh, east line of Prairie							1		
M. line, old	Seventh, east line of Earl					1				
M. line, old	East line of Cypress, B. C.									
M. line, old	East of Walsh, B. C.									
M. line, old	Payne and Ross					1				
		18	18	35	3	2	19	4	5	1

Number of valves laid this year 5

Total number of Valves on Low Service ..... [illegible]

LOCATION OF VALVES (HIGH SERVICE).

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Arundel	North line of Summit		1						
Arundel	South line of Selby		1						
Arundel	North line of Dayton		1						
Arundel	North line of Marshall		1						
Arundel	North line of Charles		1						
Arundel	North line of Edmund		1						
Arundel	North line of Thomas		1						
Ashland	West line of Western			1					
Ashland	East line of Mackubin			1					
Ashland	East and west line of Dale			2					
Ashland	East line of Grotto			1					
Ashland	East and west line of Victoria			2					
Aurora	West line of Rice			1					
Aurora	East line of Jay			1					
Aurora	West line of Farrington			1					
Aurora	East and west line of Western			2					
Aurora	East line of Mackubin			1					
Aurora	East and west line of Dale			2					
Aurora	West line of Victoria			1					
Arcade	North line of Dawson			1					
Arcade	North and south line of Seventh			1	1				
Arcade	North line of Minnehaha				1				
Arcade	South line of Omaha Ry				1				
Arcade	North line of Duluth Ry., B. O.	1							
Arcade	North and south line of Case				2				
Arcade	South line of Magnolia				1				
Astoria	North line of St. Anthony			1					
Auburn	West line of Fairview			1					
Arch	West line of Mt. Vernon			1					
Arch	East line of Jackson			1					
Atlantic	South line of Sixth			1					
Atlantic	South line of Ross			1					
Atwater	East line of Rice			1					
Agate	East line of Courtland			1					
Agate	North line of Granite			1					
Agate	South line of York			1					
Avon	North line of Iglehart		1						
Avon	North line of Carroll		1						
Avon	North line of St. Anthony		1						
Bates ave	North line of Conway				1				
Bates ave	South line of Seventh				1				
Beech	East and west line of Earl			2					
Beech	East line of Forrest			1					
Beech	East line of Mendota			1					
Beech	South line of Seventh			1					
Blair	West line of Western			1					
Blair	East line of Mackubin			1					
Blair	East line of Dale			1					
Broadway	North line of Valley			1					
Brewster	North line of University			1					
Brewster	North line of Sherman			1					
Burr	South line of York			1					
Burr	North and South line of Case			2					
Burr	South line of Lawson			1					
Burgess	East line of Dale			1					
Bayless ave	South line of Cudworth					1			
Bayless ave	Head of Bayless, P. on H.			1					
Bayless ave	South line of Robbins, M. and H			1		1			
Bayless ave	North line of Tainter, on H.			1					
Bayless pl	East line of Bayless avenue		1						
Blake	East line of Scudder			1					
Blake	East line of Langford, P. P. E. on H			1					
Burns	East line of Mound			1					
Burns	East and West line of Earl			2					
Beacon	South line of University		1						
Buffalo	North line of Capitol			1					
Buffalo	South line of Granite			1					
Canada	North line of University			1					
Canada	South line of Valley			1					
Capitol	West line of Mississippi			1					

LOCATION OF VALVES HIGH SERVICE.—Continued.

Street.	Location.	4 inch.	6 inch.	8 inch.	12 inch.	16 inch.	20 inch.	24 inch.	30 inch.
[illegible]	East line of [illegible]								
[illegible]	East and west line of [illegible]								
[illegible]	West line of [illegible]								
[illegible]	[illegible]								

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Crocus place	South line of Goodrich		1						
Crocus place	South line of Fairmount		1						
Chatsworth	North line of Evergreen			1					
Cleveland	South line of University					1			
Cleveland	South line of Myrtle on H			1					
Cleveland	300 ft. N. Mil. Ry. on H			1					
Cleveland	South line Gilbert on H.			1					
Cleveland	North line of St. Anthony					1			
Cleveland	Head of Rondo on H			1					
Courtland	North and south line of Sycamore			1		1			
Courtland	North line of Agate on H			1					
Courtland	North line of York on H			1					
Courtland	North line of Poplar on H			1					
Courtland	North line of Case on M. & H.			1		1			
Courtland	North line of Jenks on H			1					
Courtland	North line of Lawson on H			1					
Courtland	At Cook on H			1					
Courtland	North line of Magnolia on H			1					
Courtland	North line of Jessamine on H			1					
Courtland	North line of Geranium on H			1					
Courtland	North line of Rose on H			1					
Courtland	South line of Maryland on H			1					
Cayuga	West line of Mississippi			1					
Cayuga	East line of Agate			1					
Cayuga	East line of Courtland			1					
Dale	South line of Goodrich				1				
Dale	North and south line of Summit				1	1			
Dale	B. O. at Grand	1							
Dale	At Ashland B. O.	1							
Dale	North and south line of Marshall					2			
Dale	North and south line of University					1		1	
Dale	North line of Lafond		1						
Dale	North line of Minnehaha, M. & B. O.			1				1	
Dale	South line of Ireland		1						
Dale	In G. N. R. R. yard on H			1					
Dale	North line of G. N. Ry		1						
Dale	N. and S. line of Front, M. & B. O.		1	1				2	
Dale	B. O. at Nigger lake			1					
Dale	North line of Como and Phalen ave.							1	
Dale	B. O. at German Luth. cemetery			1					
Dale	Approach to reservoir, M. & B. O.			2			2	1	
Dale	S. line of McCarron road, M. & B. O.			1			1		
Dayton	West line of Summit				1				
Dayton	East and west line of Western				2				
Dayton	East line of Mackubin				1				
Dayton	East and west line of Dale			1	1				
Dayton	East line of Grotto			1					
Dayton	West line of Avon			1					
Dayton	East and west line of Victoria			2					
Dayton	East line of Chatsworth			1					
Dayton	West line of Snelling			1					
Dayton	East line of Pierce			1					
Dayton	West line of Herschel			1					
Dayton	East line of Prior			1					
Dayton	East line of Moore			1					
Duluth	North line of Seventh			1					
De Soto	South line of York			1					
De Soto	North and south line of Case			2					
Dawson	East and west line of Mendota			2					
Dooley	East line of County road			1					
Earl	South line of Pacific				1				
Earl	North line of Beech				1				
Earl	South line of Seventh				1				
Edmund	West line of Rice			1					
Edmund	West line of Gaultier			1					
Edmund	East and west line of Western			2					
Edmund	East line of Mackubin			1					
Edmund	East and west line of Dale			2					
Edmund	East line of Grotto			1					
Edmund	East and west line of Victoria			2					

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Eichenwald.	South line of Seventh			1					
Euclid	West line of Cypress			1					
Euclid	East and west line of Mendota			2					
Elfelt	North line of Charles		1						
Elfelt	North line of Thomas		1						
Elfelt	North line of Lafond		1						
Edgerton	North and south line of Case				2				
Edgerton	South line of Magnolia				1				
Everett c'rt.	South line of Wheeler			1					
Evergreen	West line of Victoria			1					
Farrington.	North line of Summit			1					
Farrington	North line of Laurel			1					
Farrington.	North and south line of Dayton			2					
Farrington	North line of Nelson			1					
Farrington	South line of Carroll			1					
Farrington.	South line of Rondo			1					
Farrington.	North line of Thomas			1					
Fauquier	West line of Duluth			1					
Fauquier	East and west line of Earl			2					
Fauquier	North and south line of Seventh			2					
Fauquier	East and west line of Arcade			2					
Fuller	West line of Rice			1					
Fuller	East line of Louis			1					
Fuller	West line of Farrington			1					
Fuller	East and west line of Western			2					
Fuller	East line of Mackubin			1					
Fuller	East and west line of Dale			2					
Fuller	West line of Victoria			1					
Fuller	East line of Chatsworth			1					
Fifth	East and west line of Rates			2					
Floral	South line of Summit		1						
Fourth	East and west line of Mendota			2					
Fourth	East line of Marle			1					
Fourth	East and west line of Rates			2					
Francis	West line of Mendota			1					
Front	East and and west line of Rice			1	1				
Front	East line of Gauthier				1				
Front	East and west line of Western				2				
Front	East line of Mackubin				1				
Front	East and west line of Dale St. main				2				
Front	East line of Grotto				1				
Front	East and west line of Victoria				2				
Front	East line of Chatsworth				1				
Front	East line of Lexington				1				
Forrest	North line of Conway			1					
Forrest	North line of Third			1					
Forrest	North line of Fremont			1					
Forrest	North line of Fourth			1					
Forrest	North line of York			1					
Forrest	South line of Case			1					
Forrest	North line of Jessamine			1					
Fairmont	East of St. Albans 27 feet			1					
Fairmont	East line of Grotto								
Fairmont	East line of Victoria			1					
Peoria	West line of Laurel			1					
Peoria	East line of Pierce			1					
Peoria	West line of Fairview			1					
Fremont	East and west line of Mendota			2					
Fairview	At Shields of B								
Fairview	N. & S. L. L. crossing M. H. & L. O.	1		1		2			
Fairview	At Shields of B			1					
F	North and south line of Minnehaha		1						
Gaspar	East line of Louisiana			1					
Gaspar	East and west line of Dale			2					
Gaspar	East line of			1					
Gaspar	East and west line of Victoria			2					
Gaspar	East line of Lexington			1					
Grove	[illegible]	1							
Grove	East line of Mendota street					1			
Grove	[illegible] Pine								

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Grotto	South line of Grand			1					
Grotto	North and south line of Summit			2					
Grotto	South line of Holly			1					
Grotto	South line of Ashland			1					
Grotto	South line of Laurel			1					
Grotto	South line of Hague			1					
Grotto	South line of Selby			1					
Grotto	South line of Dayton			1					
Grotto	South line of Marshall			1					
Grotto	North line of Iglehart			1					
Grotto	North line of Carroll			1					
Grotto	North line of Sherburne			1					
Grotto	North line of Thomas			1					
Goodrich	East and west line of Dale			2					
Goodrich	East line of Grotto			1					
Goodrich	East and west line of Victoria			2					
Goodrich	East line of Chatsworth			1					
Greenbrier	North line of Seventh				1				
Greenbrier	North line of Case		1						
Gaultier	North line of Sherburne			1					
Gaultier	North line of Thomas			1					
Gaultier	North and south line of Front			2					
Gaultier	North line of Hatch			1					
Gaultier	North line of Lawson			1					
Gorden	East and west line of Scudder			2					
Geranium	West line of Arcade			1					
Geranium	West line of Edgerton			1					
Genesee	West line of Mississippi			1					
Granite	West line of Mississippi			1					
Granite	East line of Agate			1					
Granite	East line of Courtland			1					
Hoffman	South line of Seventh			1					
Hoffman	South line of McLean			1					
Hoffman	North line of River			1					
Holly	West line of Western			1					
Holly	East line of Mackubin			1					
Holly	East and west line of Dale			2					
Holly	East line of Grotto			1					
Holly	East line of Victoria			1					
Hague	West line of Dale			1					
Hague	East line of Grotto			1					
Hague	West line of Avon			1					
Hague	East and west line of Victoria			2					
Hague	East line of Chatsworth			1					
Hudson	East line of Mendota			1					
Hudson	East and west line of Bates			2					
Hastings	East and west line of Earl				2				
Hastings	East line of Francis				1				
Hastings	West line of Maple				1				
Hastings	West line of Mound				1				
Hewitt	West line of Sheldon			1					
Hewitt	West line of Holton			1					
Hewitt	West line of Simpson			1					
Hewitt	East and west line of Snelling			2					
Hope	South line of Seventh			1					
Hampden	East line of Raymond			1					
Iglehart	West line of Wabasha			1					
Iglehart	East and west line of Rice			2					
Iglehart	West line of Summit place			1					
Iglehart	West line of Louis			1					
Iglehart	West line of Farrington			1					
Iglehart	East and west line of Western			2					
Iglehart	East line of Mackubin			1					
Iglehart	East and west line of Dale			2					
Iglehart	East line of Grotto			1					
Iglehart	West line of Avon			1					
Iglehart	East and west line of Victoria			2					
Iglehart	East line of Chatsworth			1					
Iglehart	East and west line of Prior			2					
Jackson	North line of University			1					

LOCATION OF VALVES (HIGH SERVICE)—Continued.

STREET.	LOCATION.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch	20-inch.	24-inch.	36-inch.
Jackson	South line of Valley			1					
Jackson	North and south line of Como				1	1			
Jackson	South line of Pennsylvania				1				
Jackson	South line of Sycamore				1				
Jay	South line of Martin			1					
Jay	South line of Fuller			1					
Jessamine	East and west line of Arcade			2					
Jessamine	West line of Greenbrier			1					
Jessamine	East and west line of Edgerton			2					
Jessamine	East line of Bradley			1					
Jessamine	West line of Burr			1					
Jessamine	West line of Clark			1					
Jessamine	West line of Arkwright			1					
Jessamine	East and west line of McMenemy			2					
Jessamine	West line of Rice			1					
Jessie	North line of Case			1					
Jessie	North line of Jenks			1					
Jessie	North line of Lawson			1					
Jessie	North line of Cook			1					
Jessie	North line of Magnolia			1					
Kent	South line of Holly		1						
Kent	South line of Ashland		1						
Kent	South line of Laurel		1						
Kent	South line of Selby		1						
Kent	North line of Marshall		1						
Kent	North line of Iglehart		1						
Laura	North and south line of Waltham			2					
Laura	South line of University			1					
Laurel	West line of Nina			1					
Laurel	East line of Virginia			1					
Laurel	East and west line of Western			2					
Laurel	East line of Mackubin			1					
Laurel	East and west line of Dale			2					
Laurel	East line of Grotto			1					
Laurel	West line of Avon			1					
Laurel	East and west line of Victoria			2					
Laurel	East line of Chatsworth			1					
Lawton	South line of Summit			1					
Lincoln	West line of Oakland			1					
Lincoln	East and west line of Dale			2					
Lincoln	East line of Grotto			1					
Lincoln	East and west line of Victoria			2					
Lincoln	East line of Chatsworth			1					
Louis	North line of Nelson			1					
Louis	South line of Carroll			1					
Louis	South line of Rondo			1					
Louis	South line of St. Anthony			1					
Louis	South line of Martin			1					
Louis	South line of Fuller			1					
Linden	North line of Mt. Airy			1					
Lafond	West line of Rice			1					
Lafond	East line of Como			1					
Lafond	East line of Farrington			1					
Lafond	West line of Western			1					
Lafond	East line of Mackubin			1					
Lafond	East and west line of Dale			2					
Lafond	East line of Grotto			1					
Lafond	East and west line of Victoria			2					
Ly'h'st W	North line of Feronia			1					
Lynnh'st E.	East line of Lynnhurst W			1					
Lexington	South line of Summit					1			
Lexington	North line of Front					1			
Lexington	South line of N. P. Ry., on H			1					
Lexington	South line of Van Slyke					1			
L'gf'd P.P.E	East line of Bayless					1			
L'gf'd P.P.E	South line of Knapp			1					
L'gf'd P.PW	West line of Bayless				1				
L'gf'd P.PW	200 feet south of Blake			1					
L'gf'd P.PW	North line of Gordon			1					
Langf'd ave	West line of Scudder, on H			1					

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6 inch.	12-inch.	16-inch.	20 inch.	24-inch.	36-inch.
Langf'd ave	East line of Knapp, on H			1					
Litchfield	East line of Rice			1					
Leslie	West line of Victoria			1					
Lawson	East and west line of Arcade			2					
Lawson	West line of Greenbrier			1					
Lawson	East line of Edgerton			1					
M'Carr'n r'd	South of pumping station						1		
M'Carr'n r'd	B. O. at Trout brook			1					
M'Carr'n r'd	South of McCarron lake, M.&B.O.			1			1		
M'Carr'n r'd	West line of Dale						1		
Mackubin	North line of Summit			1					
Mackubin	South line of Holly			1					
Mackubin	South line of Ashland			1					
Mackubin	South line of Laurel			1					
Mackubin	South line of Selby			1					
Mackubin	North and south line of Dayton			2					
Mackubin	North line of Marshall			1					
Mackubin	North line of Iglehart			1					
Mackubin	North line of Carroll			1					
Mackubin	North line of Rondo			1					
Mackubin	North line of St. Anthony			1					
Mackubin	North line of Martin			1					
Mackubin	South line of Aurora			1					
Mackubin	North and south line of University			2					
Maple	South line of Hudson			1					
Maple	North line of Euclid			1					
Maple	North line of Conway			1					
Maple	South line of Fourth			1					
Maple	North line of Fifth			1					
Maple	South line of Seventh			1					
Margaret	East and West line of Earl			2					
Margaret	East line of Forrest			1					
Margaret	East and west line of Mendota			2					
Margaret	North and south line of Seventh			2					
Margaret	East line of Greenbrier			1					
Martin	East and west line of Rice			2					
Martin	West line of Louis			1					
Martin	West line of Farrington			1					
Martin	East and west line of Western			2					
Martin	East line of Mackubin			1					
Martin	East and west line of Dale			2					
Martin	West line of Victoria			1					
Maria	South line of McLean			1					
Maria	South line of Cherry			1					
Maria	North line of Plum			1					
Maria	North line of Hudson			1					
Maria	South line of Ravine			1					
Maria	North line of Conway			1					
Maria	South line of Fourth			1					
Maria	North line of Fifth			1					
Maria	North and south line of Seventh			2					
Marshall	West line of Western			1					
Marshall	East line of Mackubin			1					
Marshall	East and west line of Dale			1	1				
Marshall	West line of Grotto				1				
Marshall	East line of Victoria				1				
Marshall	East line of Prior				1				
Marshall	East and west line of Fairview				2				
Mendota	North line of Hudson				1				
Mendota	B. O. at Euclid	1							
Mendota	South line of Fourth				1				
Mendota	North line of Margaret, M.& B.O.	1			1				
Mendota	N. & S. line of Seventh, M.& B.O.	1		1	1				
Mendota	South line of Fauquier			1					
Mt. Airy	East line of Linden			1					
Mt. Airy	West line of Warren			1					
Maryland	West line of Greenbrier			1					
Maryland	E. and west line of Dale st main				2				
Marion	North line of University			1					
Marion	North line of Sherburne			1					

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20 inch.	24-inch.	36-inch.
Marion	North line of Charles			1					
Marion	North line of Edmund			1					
Marion	North line of Thomas			1					
Minnehaha	East and West line of Earl			2					
Minnehaha	North and south line of Seventh			2					
Minnehaha	West line of Arcade				1				
Minnehaha	East line of Greenbrier				1				
Minnehaha	West line of Dale				1				
Minnehaha	East line of Pascal				1				
Minnehaha	East line of Snelling				1				
Mound	North and south line of Burns			1	1				
Manvel	East and west line of Bayless			2					
Magnolia	East line of Forrest			1					
Magnolia	East and west line of Arcade			2					
Magnolia	West line of Greenbrier			1					
Magnolia	East line of Edgerton			1					
Mulberry	North line of Third		1						
Milford	West line of Rice			1					
Milford	West line of Albermarle			1					
Milford	East line of Woodbridge			1					
Manitoba	East line of Rice			1					
Nelson	West line of Summit			1					
Nelson	East line of Farrington			1					
Nelson	East line of Western			1					
Nina	North line of Summit			1					
North	West line of Truxton			1					
North	North line of Seventh			1					
Nourse	South line of Gordon			1					
Oakland	South line of Ramsey			1					
Oakland	East line of Lawton			1					
Oakland	South line of Lincoln			1					
Oakland	South line of Summit			1					
Oakley	East line of Prior			1					
Osceola	West line of Pleasant			1					
Osceola	East line of Grotto			1					
Osceola	East and West line of Victoria			2					
Osceola	East line of Chatsworth			1					
Park Place	South of Summit		1						
Park ave	North line of Martin			1					
Park ave	North and south line of University			2					
Park ave	North line of Sherburne			1					
Pine	North line of Grove					1			
Pine	North line of Thirteenth			1					
Pine	North line of Olmstead			1					
Pine	North and south line of Williams			2					
Portland	West line of Western			1					
Portland	East line of Mackubin			1					
Portland	East and west line of Dale			2					
Portland	East line of Grotto			1					
Portland	East line of Victoria			1					
Penns'lv'nia	West line of Olive			1					
Plum	East line of Bates			1					
Plum	East line of Hoffman			1					
Prior	North and south line of Marshall			1	1				
Prior	North line of St. Anthony				1				
Prior	South line of University				1				
Payne	North line of Whitall			1					
Payne	North line of Wells			1					
Payne	North line of York			1					
Payne	North and south line of Case			2					
Payne	North line of Jenks			1					
Payne	North line of Lawson			1					
Payne	North line of Cook			1					
Payne	North line of Magnolia			1					
Payne	North line of Jessamine			1					
Payne	North line of Geranium			1					
Payne	North and south line of Maryland			2					
Payne	North line of Hawthorne			1					
Payne	North line of Orange			1					
Payne	North line of Hyacinth			1					

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24 inch.	36-inch.
Pascal	North line of Minnehaha			1					
Pascal	South line of Wesley			1					
Pascal	North line of Hewitt			1					
Pym	West line of Bayless				1				
Phalen	North line of Seventh				1				
Reservoir	On reservoir grounds		1		1				2
Rice	N. and S. line of Summit, M. & B. O.	1		1		1			
Rice	North line of St. Anthony					1			
Rice	N. and S. line of University, M. & H.		1			1	1		
Rice	North line of Sherburne, on H		1						
Rice	North line of Charles, on H		1						
Rice	North line of Edmund, H. and B. O.		2						
Rice	North and south line of Como				1		1		
Rice	North line of Van Buren				1				
Rice	North and south line of Sycamore				1	1			
Rice	Lyton place, on H			1					
Rice	South line of Wayzata, on H			1					
Rice	North and south line of Front					2			
Rice	North line of Hatch, on H			1					
Rice	North line of Lawson, on H			1					
Rice	North line of Cook, on H			1					
Rice	North line of Oliver, on H			1					
Robert	South line of Aurora			1					
Robert	N. and S. line of University			2					
Robert	North line of Valley			1					
Rondo	West line of Rice			1					
Rondo	East line of Louis			1					
Rondo	West line of Farrington			1					
Rondo	East and West line of Western			2					
Rondo	East line of Mackubin			1					
Rondo	East and west line of Dale			2					
Rondo	East line of Grotto			1					
Rondo	West line of Avon			1					
Rondo	East and west line of Victoria			2					
Rondo	East and west line of Prior			2					
Reaney	West line of Duluth			1					
Reaney	East and west line of Earl			2					
Reaney	North and south line of Seventh			2					
Reaney	East and west line of Arcade			2					
Ramsey	East line of Summit			1					
Ross	West line of Duluth			1					
Ross	East and west line of Earl			2					
Ross	South line of Seventh			1					
Ravoux	South line of St. Anthony		1						
Ravoux	South line of Fuller		1						
Ravine	East and west line of Bates		2						
Raymond	North line of University, M. and H.			1		1			
Raymond	South line of Territorial road, on H.			1					
Raymond	North line of Ellis, on H			1					
Raymond	East line of Bayless			1					
Raymond	South line of Manvel			1					
Raymond	North and south line of Wheeler			2					
Raymond	South line of Atty			1					
Raymond	South line of Pratt			1					
Robbins	East line of Bayless			1					
Rose	West line of Arcade			1					
River	West line of Maria		1						
St. Anthony	West line of Rice			1					
St. Anthony	West line of Louis			1					
St. Anthony	West line of Farrington			1					
St. Anthony	East and west line of Western			2					
St. Anthony	East line of Mackubin			1					
St. Anthony	East and west line of Dale			2					
St. Anthony	East line of Grotto			1					
St. Anthony	West line of Avon			1					
St. Anthony	East and west line of Victoria			2					
St. Anthony	West line of Snelling			1					
St. Anthony	West line of Fry			1					
St. Anthony	West line of Aldine			1					
St. Anthony	West line of Wheeler			1					

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
St. Anthony	East and west line of Fairview			2					
St. Anthony	East and west line of Prior			2					
St. Anthony	East line of Cleveland			1					
St. Peter	South line of Iglehart			1					
St. Peter	South line of Fulton			1					
St. Peter	North and south line of Martin			2					
St. Peter	South line of University			1					
Selby	West line of Summit			1					
Selby	West line of Nina			1					
Selby	West line of Farrington			1					
Selby	East and west line of Western			2					
Selby	East line of Mackubin			1					
Selby	East and west line of Dale			2					
Selby	East line of Grotto			1					
Selby	West line of Avon			1					
Selby	East and west line of Victoria			2					
Selby	East line of Chatsworth			1					
Seventh	West line of Phalen					1			
Seventh	East line of Duluth					1			
Seventh	East and west line of Earl, M. & B. O.					2			
Seventh	South line of Fauquier					1			
Seventh	B. O. at Mendota	1							
Seventh	North line of Beech					2			
Seventh	West line of Maple, M. and B. O.	1				2			
Seventh	West line of Hoffman, M. and B. O.	1				1			
Sherburne	West line of Cedar								
Sherburne	East line of Park			1					
Sherburne	East and west line of Rice			2					
Sherburne	West line of Gaultier			1					
Sherburne	East and west line of Western			2					
Sherburne	East line of Mackubin			1					
Sherburne	East and west line of Dale			2					
Sherburne	East line of Grotto			1					
Sherburne	East and west line of Victoria			2					
Section main	N. B. pumping station, M. & B. O.			1				2	
Summit ave	East line of Wabasha			1					
Summit ave	East line of St. Peter			1					
Summit ave	East and west line of Rice, M. & B. O.			1	1				
Summit ave	South line of Dayton			1					
Summit ave	North line of Nina			[illegible]					
Summit ave	East line of Western			1					
Summit ave	East line of Mackubin				1				
Summit ave	[illegible] Oakland				[illegible]				
Summit ave	East and west line of Dale				2				
Summit ave	East line of Grotto				1				
Summit ave	East and west line of Victoria				2				
Summit ave	East line of Chatsworth				1				
Summit ave	East and west line of Lexington				2				
[illegible]	[illegible]								
[illegible]	West [illegible]		[illegible]						
[illegible]	North [illegible]			[illegible]					
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible] St. Anthony			[illegible]					
[illegible]	[illegible]			[illegible]					
[illegible]	[illegible]			[illegible]					
[illegible]	[illegible]			[illegible]	[illegible]				
[illegible]	[illegible]			[illegible]					
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								
[illegible]	[illegible]								

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Snelling ave	At Lincoln on H			1					
Snelling ave	South line of Grand on H			1					
Snelling ave	N. and south line of Summit, M. & H.			1		2			
Snelling ave	South line of Ashland on H			1					
Snelling ave	South line of Hague on H			1					
Snelling ave	South line of Selby on H			1					
Snelling ave	South line of Marshall, M. and H			1		1			
Snelling ave	North line of Milwaukee Short Line					1			
Snelling ave	North line of Carroll on H			1					
Snelling ave	North line of St. Anthony on H			1					
Snelling ave	North line of Shields on H			1					
Snelling ave	North and south line of University					2			
Snelling ave	At Edmund on H			1					
Snelling ave	At Blair on H			1					
Snelling ave	N. and S. line of Minnehaha, M. & H.			1		2			
Snelling ave	North line of Capitol on H			1					
Snelling ave	North line of Wesley on H			1					
Snelling ave	South line of Manitoba Ry. on H			1					
Simpson	South line of Wesley			1					
Simpson	South line of Hewitt			1					
Sixth	West line of Arcade			1					
Sixth	West line of Hope			1					
Sixth	West line of Maple			1					
Sixth	East and west line of Bates			2					
Sixth	West line of Maria			1					
Sidney	East line of Raymond			1					
Scudder	At Atty on H			1					
Scudder	South line of Langford					1			
St. Clair	West line of Victoria				1				
St. Clair	East line of Chatsworth				1				
Stinson	West line of Gaultier			1					
Sycamore	West line of Courtland				1				
Sycamore	East line of Sylvan				1				
Sycamore	East line of Rice				1				
Third	East and west line of Mendota			2					
Third	East line of Maple			1					
Third	East and west line of Bates			2					
Third	South line of Summit			1					
Third St. N.	North line of East Third			1					
Thirteenth	B. O. at Broadway north	1							
Tilton	East line of St. Peter			1					
Tilton	East line of Rice			1					
Thomas	West line of Como			1					
Thomas	West line of Gaultier			1					
Thomas	East line of Farrington			1					
Thomas	East and west line of Western			2					
Thomas	East line of Mackubin			1					
Thomas	East and west line of Dale			2					
Thomas	East line of Grotto			1					
Thomas	West line of Victoria			1					
Topping	West line of Como			1					
Topping	East line of Dale			1					
Taylor	West line of Pascal			1					
Taylor	West line of Simpson			1					
Taylor	East and west line of Snelling			2					
Ter. road	West line of Raymond			1					
Ter. road	East line of Cromwell			1					
University	South line of Valley					1			
University	B. O. 275 feet west of Canada	1							
University	West line of Robert					1			
University	East and west line of Rice, M. & B. O.	1			1	1			
University	West line of Gaultier				1				
University	East and west line of Western				2				
University	East line of Mackubin				1				
University	East and west line of Dale				1		1		
University	East line of St. Albans on H		1						
University	East line of Grotto on H		1						
University	East line of Avon on H		1						
University	East and west line of Victoria, M. & H.		1				2		
University	East line of Milton on H		1						

LOCATION OF VALVES. HIGH SERVICE—Continued.

Streets.	Location.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]								

LOCATION OF VALVES (HIGH SERVICE)—Concluded

STREET.	LOCATION.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36 inch.
Whitall	East line of Bradley			1					
Whitall	West line of Burr			1					
Walker	North line of Hewitt		1						
Wesley	West line of Pascal		1						
Wesley	West line of Snelling			1					
Workhouse	West line of Lexington			1					
Wheeler St.	East line of Bayless				1				
Westmi'ster	South line of Case			1					
Wheeler ave	South line of University			1					
Woodbridge	South line of Front			1					
Winnipeg	East line of Rice			1					
York	East and west line of Arcade			2					
York	West line of Greenbrier			1					
York	East and west line of Edgerton			2					
York	East line of Bradley			1					
York	East line of Clark			1					
York	East line of Courtland			1					
		21	93	766	102	50	29	8	2

Number of valves laid this year on high service 36
Total number of valves on high service 1,080
Total number of valves on high and low service 1,749

Reference—M., main; B. O., blow-off; H., on hydrant; H. B., on hydrant branch; D. H. and L., dividing between high and low service.

INVENTORY OF STOCK AND TOOLS, DECEMBER 1, 1891.

12 feet 36 inch pipe.
120 feet 30 inch pipe.
96 feet 24 inch pipe.
199 feet 20 inch pipe.
74 feet 16 inch pipe.
203 feet 12 inch pipe.
236 feet 6 inch pipe.
408 feet 4 inch pipe.
27 feet 3 inch pipe.
7 pieces 30 inch curvature pipe.
4 pieces 24 inch curvature pipe.
3 pieces 20 inch curvature pipe.
2 pieces 16 inch curvature pipe.
1 piece 12 inch curvature pipe.
24 pieces 6 inch curvature pipe.
14 pieces 4 inch curvature pipe.
1 piece 12 inch quarter bend.
5 pieces 6 inch quarter bend.
4 pieces 4 inch quarter bend.
1 36 inch sleeve.
1 30 inch sleeve.
3 24 inch sleeves.
3 20 inch sleeves.
2 16 inch sleeves.
2 12 inch sleeves.
47 6 inch sleeves.
8 4 inch sleeves.
2 24 inch plugs.
2 20 inch plugs.
6 16 inch plugs.
7 12 inch plugs.
31 6 inch plugs.
52 4 inch plugs.
1 30x6 4-way branch.
1 24x4 4-way branch.
2 24x4 3-way branch.
1 20x6 4-way branch.
1 16x12 4-way branch.
1 16x12 3-way branch.
3 16x6 4-way branch.
1 16x3 3-way branch.
2 12x12 4-way branch.
1 12x12 3-way branch.
2 12x6 4-way branch.
2 12x6 3-way branch.
2 12x4 3-way branch.
1 12x3 3-way branch.
8 6x6 4-way branch.
6 6x3 3-way branch.
7 6x4 4-way branch.
11 6x4 3-way branch.
7 6x3 3-way branch.
4 4x4 4-way branch.
4 4x4 3-way branch.
1 24x20 "Y."
1 20x20 "Y."
1 20x16 "Y."
2 Reducers from 20 to 12 inch.
1 Reducer from 16 to 12 inch.
2 Reducers from 12 to 6 inch.
5 Reducers from 6 to 4 inch.
1452 Pounds of pig lead.
72 pounds of hemp packing.
2 Cans blasting powder.
200 Feet of fuse.

GATES AND GATE DUPLICATES.

2 20 inch gates.
29 6 inch gates.
3 4 inch gates.
13 3 inch gates.
1 2½ inch gate.
2 2 inch stop and waste valves.
20 2 inch valves.
7 1½ inch stop and waste valves.
1 1¼ inch stop and waste valves.
4 1¼ inch valves.
12 Gate wrenches.
7 Iron gate boxes (complete.)
Miscellaneous lot of gate duplicates.

HYDRANTS.

4 Mathew hydrants.
3 Casings for Mathew hydrants.
5 Casings for sprinkling pipes.
2 Rods for stand pipes.
19 Hydrant wrenches.
2 Boilers for thawing hydrants.
2 Kit of tools for repairing hydrants.
Miscellaneous lot of hydrant duplicates

PIPE LAYING TOOLS.

6 Tool boxes.
8 Lead ladles.
6 Lead pots.
6 Lead furnaces.
7 Derricks.
2 Bagnall & Land diaphragm pumps.
66 Shovels.
94 Picks.
14 Sledge hammers.
8 Striking hammers.
15 Crowbars.
13 Rock drills.
2 Plug and feather drills.
9 Blasting chains.
50 Blasting timbers.
11 Set caulking tools.
1 Pipe cutting machine.
4 Spirit levels.
5 Dirt rammers.
9 Saws.
5 Axes.

CONNECTION STOCK AND TOOLS.

821 feet ½ to 2 inch galvanized pipe.
4 Scales.
1 Lot of pipe fittings from ½ to 2 inch.
5755 Pounds ½ to 1¼ inch lead pipe (extra pipe.)
3 Kits plumbing tools complete.
3 Mueller tapping machine (complete)
103 Bingham and Morgan stop boxes.
469 Corporation cocks from ⅜ to 1 inch.
498 Stop and waste cocks.
20 Pounds of solder.
13 Stop cock rods for turning on and shutting off water.
4 Valve rods for turning on and shutting off water.

TREASURER'S REPORT.

OFFICE OF THE CITY TREASURER, CITY OF ST. PAUL,
December 1, 1891.

TO THE HONORABLE, THE PRESIDENT AND MEMBERS OF THE BOARD OF WATER COMMISSIONERS OF THE CITY OF ST. PAUL:

GENTLEMEN: I have the honor to submit to you the following report of the receipts and disbursements of this office from December 1, 1890, to December, 1, 1891:

RECEIPTS.

Balance December 1, 1890	$1,762 94
December 1, 1890, John Caulfield, secretary	8,000 00
December 6, 1890, John Caulfield, secretary	1,500 00
December 9, 1890, John Caulfield, secretary	2,000 00
December 12, 1890, John Caulfield, secretary	1,500 00
December 18, 1890, John Caulfield, secretary	1,000 00
December 27, 1890, John Caulfield, secretary	2,000 00
January 2, 1891, John Caulfield, secretary	2,500 00
January 3, 1891, John Caulfield, secretary	3,500 00
January 7, 1891, John Caulfield, secretary	10,000 00
January 12, 1891, John Caulfield, secretary	2,000 00
January 17, 1891, John Caulfield, secretary	2,000 00
January 26, 1891, John Caulfield, secretary	3,000 00
February 2, 1891, John Caulfield, secretary	4,000 00
February 7, 1891, John Caulfield, secretary	3,000 00
February 24, 1891, John Caulfield, secretary	7,000 00
February 28, 1891, John Caulfield, secretary	2,500 00
March 2, 1891, John Caulfield, secretary	2,000 00
March 6, 1891, John Caulfield, secretary	6,000 00
March 11, 1891, John Caulfield, secretary	4,000 00
March 24, 1891, water frontage tax	4,880 46
March 26, 1891, John Caulfield, secretary	14,000 00
March 28, 1891, John Caulfield, secretary	10,000 00
April 9, 1891, John Caulfield, secretary	2,500 00
April 27, 1891, John Caulfield, secretary	4,000 00
May 1, 1891, John Caulfield, secretary	4,500 00
May 4, 1891, John Caulfield, secretary	1,000 00
May 9, 1891, John Caulfield, secretary	2,500 00
May 27, 1891, John Caulfield, secretary	2,500 00
June 1, 1891, John Caulfield, secretary	12,000 00
June 6, 1891, John Caulfield, secretary	3,500 00
June 24, 1891, water frontage tax	60,000 00
June, 25, 1891, John Caulfield, secretary	3,000 00
July 1, 1891, John Caulfield, secretary	2,000 00
July 8, 1891, John Caulfield, secretary	10,000 00
July 15, 1891, John Caulfield, secretary	5,000 00
July 16, 1891, John Caulfield, secretary	5,000 00
July 20, 1891, water frontage tax	19,810 50
August 25, 1891, John Caulfield, secretary	10,000 00
September 1, 1891, John Caulfield, secretary	2,000 00
September 10, 1891, John Caulfield, secretary	10,000 00
September 23, 1891, John Caulfield, secretary	22,000 00
October 1, 1891, John Caulfield, secretary	1,000 00
October 8, 1891, John Caulfield, secretary	11,000 00
October 9, 1891, John Caulfield, secretary	10,000 00

ATTORNEY'S REPORT.

St. Paul, December 8th, 1891

To the Honorable Board of Water Commissioners of the City of St. Paul:

Gentlemen: There has been brought during the last year two actions respecting the rights, duties and obligations arising under the law relating to the Board of Water Commissioners. The first of these actions was commenced by the service of a citation upon the Mayor of the City of St. Paul in the case entitled: "The State of Minnesota vs. City of St. Paul." This was an order to show cause why the defendant should not have judgment rendered against it for the sum of $74.47 in the District Court of the County of Anoka.

The object of this proceeding was to collect taxes which had been assessed against property owned by the City of St. Paul, and under the supervision and control of the Board of Water Commissioners. The defendant filed an answer to the citation alleging among other things that this property, being held by a public corporation for public purposes, and being used in connection with other property owned by the defendant for the purpose of supplying the City of St. Paul and its inhabitants with water, was exempt from taxation.

The case was heard at Anoka on the 14th day of September, 1891, before the Hon. William Lochren, judge of said court, who rendered a decision in said case setting aside the tax and denying the application of the state for judgment on the ground that the property was exempt.

In connection with this matter an application was made at the same time to the County Commissioners of Anoka county for an abatement of the taxes assessed on the other property in said county, and owned by the City of St. Paul, and thereafter the County Commissioners, following the decision rendered in the case above mentioned, abated the taxes that had been levied against the property owned by the City of St. Paul, and situated in the County of Anoka, and used in connection with the system of water works by the city.

The other action mentioned was commenced in the District Court of the County of Anoka, November 5th, 1891. This action is entitled:

Edward Brooks and Annie Byerly, plaintiffs, vs. The Board of Water Commissioners of the City of St. Paul, defendants.

In this action plaintiffs claimed to be the owners of certain real estate and a mill site on Rice creek near where it empties into the Mississippi river, and seek to restrain defendant drawing water from Baldwin lake in said county, they claiming that the water has been taken from that lake in such quantities as to reduce the natural flow of water into Rice Creek, thus destroying the water power used to operate the mills of said plaintiffs.

This action is not at issue at the present time, but will be tried some time during the latter part of the winter or early in the spring.

Respectfully,

DANIEL W. LAWLER,
Corporation Attorney.

ENGINEER'S REPORT

ST. PAUL WATER WORKS PUMPING STATION, LAKE MCCARRON,
December 1, 1891.

TO THE HONORABLE BOARD OF WATER COMMISSIONERS OF THE CITY OF ST. PAUL, MINN.:

GENTLEMEN: I herewith submit the seventh annual report of the three pumping stations, the same being for the year ending Nov. 30, 1891:

M'CARRON LAKE STATION.

The total quantity of water pumped at McCarron lake is 1,106,084,800 gallons.

Daily average, 3,030,232 gallons.

Daily increase from 1890 to 1891, 871,090 gallons.

Total coal consumed, 1,067 tons.

Daily average of coal used, 5,845 pounds.

Engines and boilers in good condition, and have required no repairing during the year, only repacking.

The new 6,000,000 pumping engines and boilers have been put up and were started last week.

BALDWIN LAKE STATION.

Stopped pumping last night for the winter. The Deane Steam Pump at Baldwin lake needs some repairing this winter; the water plunger is cutting down one-fourth of an inch after six months' running; there must be a new plunger put in; boiler and steam engine are in good condition.

Total quantity of water pumped at Baldwin lake, 1,983,084,500 gallons.

Total wood consumed, 797 cords.

Total coal consumed. 75 tons.

VADNAIS LAKE STATION.

Commenced pumping Sept. 17, 1891

Average quantity of water pumped daily, 2,250,000 gallons.

Amount of coal used per day, 2,800 to 3,000 pounds.

Engine and pump doing good work.

MARTIN FEIST,
Engineer.

ST. PAUL WATER WORKS PUMPING STATION AT LAKE McCARRON.

ENGINEER'S REPORT FOR THE YEAR ENDING NOVEMBER 30, 1891.

Months.	Number of Hours Pumped.		Number of Revolutions.		Number of Gallons Pumped.		Average per day Pumped.	Pounds of Coal Used.	Average Coal Used per Day.	Pressure on Pump.
	Engine No 1.	Engine No. 2.	Engine No. 1.	Engine No. 2.	Engine No. 1.	Engine No. 2.				
December, 1890	.....	744	.....	1,102.400	.....	74,963,200	2,418,167	150,561	4,856	65
January, 1891	56	686	1,420.000	1,169,500	4,544,000	79,526,000	2,711,938	171,307	5,522	65
February, 1891	63	600	166.400	1.050,300	5,324,800	71,420,400	2,740,900	160,256	5,723	65
March, 1891	11	723	27,400	1,155,700	876,800	78.567,600	2,563,367	159,040	5,130	65
April, 1891	.....	709	.....	1,148,200	.....	78.077,600	2,602,586	146,583	4,886	65
May, 1891	115	703	289,800	1,497,400	9,273,600	101,813,200	3,583,445	212,870	6.866	65
June, 1891	37	694	97.300	1,441,800	3,113,600	96,002,400	3.303,533	187.811	6,260	65
July, 1891	5	734	12,900	1,534,600	412,800	104,352,800	3.379,535	196.555	6,340	65
August, 1891	143	744	376,200	1,560,800	12,038,400	106,134,400	3,812,025	219,112	7.068	65
September, 1891	101½	718	259,500	1,481,600	8,304,000	100,769,200	3,635.773	193,650	6,455	65
October 1891	8	602	21,500	1,238,600	688.000	84,224,800	2,830,426	164,984	4,898	65
November, 1891	80	668	209.800	1,152,700	6,713,600	78,383,600	2,850.792	170,976	5,699	65
Total	619½	8,325	1,652,800	15,535,200	51.689,600	1,054,345,200	.....	2,133,605	.....	.....

Total number of gallons pumped during the year, 1,054,345,200.
Total number of tons coal consumed during the year, 1,067.
NOTE.—Coal for heating engine house and engineer's house and changing boilers is included in above statement.

MARTIN FEIST,
Engineer.

ST. PAUL WATER WORKS PUMPING STATION BALDWIN LAKE—ENGINEER'S REPORT.

FOR THE YEAR ENDING NOVEMBER 30, 1891.

Months.	No. of Hours P'mp'd	Number of Revolutions.	Number of Gallons Pumped.	Average Daily Pumpi'g	Coal Used.	Wood Used.	Pressure.
December, 1890	699	1,165,500	248,251,500	8,000,100	74.026	68½	4 lbs.
January, 1891	726	1,279,900	279,018,200	9,000,500	72,239	37½	"
February, 1891	216	255,200	55,673,600	6,100,000	.....	30¾	"
March, 1891	.....	.....	.....	.....	.....	.....	"
April, 1891	.....	.....	.....	.....	.....	.....	"
May, 1891	216	356,000	75,859,800	8,000,000	.....	44	"
June, 1891	599	1,094,500	249,546,000	9,900,000	4,060	112	"
July, 1891	727	1,395,900	318,265,200	10,266,600	.....	132	"
August, 1891	643	1,022,700	233,165,600	7,521,400	.....	98	"
September, 1891	626	744,700	162,331,600	5,411,400	.....	69	"
October, 1891	720	1,114,000	243,000,000	8,000,000	.....	121	"
November, 1891	720	589,600	117,920,000	3,906,000	.....	85	"
Total	5,892	9,018,000	1,983,034,500		150,325	797¾	

Total number of gallons pumped during the year, 1,983,034,500.
Total number of tons of coal used, 75.
Total number of cords of wood used, 797¾.

JACOB ABRESCH, Engineer.

ENGINEER'S REPORT FROM VADNAIS LAKE STATION.

FOR THE YEAR ENDING NOVEMBER 30, 1891.

Months.	Number of Days Pumped.	Number of Revolutions.	Number of Gallons Pumped.	Coal Used.
February, 1891	13	1,040,000	35,000,000	39,000
September, 1891	29	960,000	29,000,000	39,800
October, 1891	27	2,160,000	69,750,000	81,000
November, 1891	29	2,320,000	74,000,000	87,000
Total	98	6,480,000	207,750,000	246,800

Total gallons pumped, 207,750,000.
Total coal used, 120 tons.

INVENTORY OF TOOLS AND STOCK AT LAKE VADNAIS STATION.

16 Tons of coal.
5 Gallons of oil.
25 Gallons kerosene oil and tanks.
1 Steel coal wheelbarrow.
1 Coal hammer.
1 Hand hammer.
1 Saw.
1 Level.
2 Chisels.
4 Files.
2 Coal scoops.
1 Steam flue cleaner.
1 hand flue cleaner.
1 Hand forge pump.
50 Feet 1-inch rubber hose.
2 Large tubular lanterns.
3 Small lanterns.
1 Bracket lamp.
1 Vise.
1 14-inch pipe wrench
1 12-inch wrench.
2 "S" wrenches.

INVENTORY OF TOOLS AND STOCK AT LAKE McCARRON STATION.

1 Vise.
1 Set screw dies, ¼ to 1-inch and taps.
1 Set screw dies, ¾ to 2-inch and taps.
2 Pipe cutters.
1 Pair pipe tongs.
1 24-inch pipe wrench.
1 12-inch pipe wrench.
1 20-inch Coe's wrench.
1 14-inch Coe's wrench.
1 8-inch Coe's wrench.
1 Portable blacksmith forge.
1 Anvil.
1 Sledge hammer.
2 Hand hammers.
1 Soft hammer.
6 Files.
2 Saws.
1 Axe.
1 Hatchet.
1 1½-ton chain block.
1 2-ton chain block.
1 3-ton chain block.
150 Feet 1¼-inch rubber hose.
3 Oil tanks.
2 1-quart oil cans.
2 2-quart oil cans.
4 Hand oilers.
2 Quart measures.
1 12-inch level.
1 Steel coal wheelbarrow.
2 Coal scoops.
1 Fairbanks' 6-ton scales.
1 Fairbanks' 1-ton scales.
1 Grindstone.
4 Large lanterns.
4 Small lanterns.
1 Clock.
1 writing desk.
1 Square.
2 Chairs.
3 Ladders.
1 Step-ladder.
1 Good cupboard.
1 Clothing cupboard.
1 Oil and and waste cupboard.
1 Work bench.
6 Spittoons.
1 Ratchet brace and bit.
4 Jack screws.
1 Draw knife.
1 Planer.
1 Edson pressure gauge.
90 Pounds waste.
25 Gallons engine oil.
20 Gallons cylinder oil.
200 Gallons kerosene oil.
15 Pounds plunger packing.
10 Pounds round piston packing.
167 Tons coal.

INVENTORY OF TOOLS AND STOCK AT BALDWIN LAKE PUMPING STATION.

1 Vise.
1 Pair pipe tongs.
1 24-inch pipe wrench.
1 18-inch pipe wrench.
1 24-inch Coes wrench.
1 14-inch Coes wrench.
1 9-inch Coes wrench.
1 Hand hammer.
2 Saws.
1 Hatchet.
1 Axe.
4 Oil tanks.
2 5-quart oil cans.
1 Quart measure.
1 Steel coal wheelbarrow.
1 Wood wheelbarrow.
1 Coal scoop.
1 Grindstone.
2 Large lanterns.
3 Small lanterns.
2 Bracket lamps.
1 Clock.
1 Draw knife.
2 Ice chisels.
2 Ice tongs.
1 Ice scoop.
1 Ratchet brace and bit.
1 Coal maul.
1 Chain.
1 8-inch steam flue cleaner.
1 4-inch steam flue cleaner.
30 Feet rubber hose.
25 Gallons cylinder oil.
20 Gallons neverseize oil.
35 Gallons engine oil.
40 Pounds waste.
35 Tons coal.
615 Cords wood.

ENGINEER'S REPORT.

St. Paul, Minn., December 1st, 1891.

To the Board of Water Commissioners:

Gentlemen: Since the City Engineer, by an act of the legislature known as House File No. 863, approved April 20th, 1891, was made ex-officio Engineer of the Board of Water Commissioners, the matters referred to me by your honorable body have not been of a nature to require an elaborate report at the present time.

The question of the most importance, viz.: the future requirements and service of the water supply and necessary extension of the water works plant, is now under consideration, and some progress has been made in exploration and surveys, but the work is not sufficiently matured to warrant a report, and I am of the opinion that no greater expenditure should be made in any direction until a careful and exhaustive test is made of what supply can be obtained at Vadnais Lake.

The pumping plant at Baldwin Lake has been tested and accepted; the test was made on June 10th, 1891, under the immediate superintendence of Prof. Pike, and the report of his test is herewith submitted and made a part of this report.

A new engine at the regular pumping station near McCarron Lake is nearly completed, and when put in active operation the high service plant will be supplied with the following pumping plant:

1 Two million gallon engine.

1 Three and one-half million gallon engine.

1 Six million gallon engine, and four boilers, "54x16" of about 100 horse power each.

This plant for efficiency, high duty, and excellence of workmanship is equaled by few if any of similar capacity in the country. No repairs have been required since the first pumps were erected in December, 1884.

A contract has been let for extending the iron floor around the new pump, putting in the necessary iron stairs, etc. This, with the removal of the old temporary partition, puts the engine house in a complete and finished condition.

New screens at the terminal chambers have been put in, giving much larger capacity, and are much more efficient than the old screens in waste-weir "B." Contracts are also let for the screens in the gate-chambers, with much improved appliances for handling and cleaning.

The driveway, cutting off the west arm of Vadnais, has been completed.

A ten-inch well at Vadnais Lake is in process of construction. It is expected to add one and one-half million gallons to the supply already ob-

tained from the well at this point. Should this work prove successful, a new pumping plant will be required at Lake Vadnais, and the system should be extended.

Respectfully submitted,
L. W. RUNDLETT,
City Engineer.

ST. PAUL, Minn., June 10th, 1891.

TO THE BOARD OF WATER COMMISSIONERS OF THE CITY OF ST. PAUL:

GENTEEMEN: Having been employed on the part of the city to make a "duty" and "capacity" test of the ten million gallon Deane pump at Rice Lake, I respectfully report as follows:

The test was made on June 9th, 1891, and lasted ten hours, from one o'clock to 11 o'clock p. m.

The water was measured at the delivery chamber by means of a wier placed in the flume, pains being taken to prevent leakage through the flume.

Observations were also made at half hour intervals at the pump house to determine the amount of coal and water used; also all necessary data as to pressure, length of stroke, etc., etc.

PRINCIPAL DIMENSIONS.

Water plungers, diameter,	29.74	in.
Average stroke of plungers,	19.477	in.
Average height from surface of water to suction chamber to center of pressure gauge,	15.375	ft.
Average pressure in ft. by gauge,	11.054	ft.
Total average pressure,	26.429	ft.
Width of weir,	6.10	ft.
Average depth on weir,	0.857	ft.
Velocity of approach per second,	.73	ft.
Total number of revolutions in ten hours,	19.910	
Net area of the plunger,	691.691	sq. in.
Total amount of water used in the boiler,	19.537	lbs.
Total coal used in the boiler,	2.969	lbs.
Average steam pressure,	83.7	lbs.
Average piston speed per minute,	107.72	ft.

RESULTS.

Duty, based on plunger displacement,	52,482.000	ft. lbs.
Duty, based on weir measurements, with no allowance for leaks	50,174,000	ft. lbs.
Capacity, based on displacements	11,147.147	gallons.
Capacity, based on weir measurements,	10,670.596	gallons.
Capacity, by weir, based on 100 piston speed,	9,910.700	gallons.
Capacity, by displacement, based on 100 piston speed,	10,347.000	gallons.

Duplicate.

Respectfully submitted,
WM. A. PIKE.

M. N. Baker 1897.

ELEVENTH ANNUAL REPORT

OF THE

BOARD

OF

WATER COMMISSIONERS

OF THE

CITY OF ST. PAUL.

DECEMBER 1, 1892.

ST. PAUL, MINN.:
THE PIONEER PRESS COMPANY.
1893.

ELEVENTH ANNUAL REPORT

OF THE

BOARD

OF

WATER COMMISSIONERS

OF THE

CITY OF ST. PAUL.

DECEMBER 1, 1892.

ST. PAUL, MINN.:
THE PIONEER PRESS COMPANY.
1893.

OFFICERS

OF THE

CITY WATER WORKS,

DECEMBER 1, 1892.

BOARD OF WATER COMMISSIONERS.

R. B. C. BEMENT, President. Term Expires Jan. 1, 1897.

A. H. LINDEKE. Term Expires Jan. 1, 1897.

J. F. HOYT. Term Expires Jan. 1, 1896.

THOMAS GRACE. Term Expires Jan. 1, 1894.

P. H. KELLY. Term Expires Jan. 1, 1895.

JOHN CAULFIELD, Secretary.

JOHN B. OVERTON, Superintendent.

L. W. RUNDLETT, City Engineer and Engineer of the Board.

MARTIN FEIST, Chief Engineer and Engineer of McCarron Lake Station.

DANIEL CURRY, Assistant Engineer of McCarron Lake Station.

JOHN MELROSE, Gate Keeper and Engineer of Vadnais Lake Station.

HUGH KANE, Assistant Engineer of Vadnais Lake Station.

JACOB ABRESCH, Engineer of Baldwin Lake Station.

A. A. THOMPSON, Assistant Engineer of Baldwin Lake Station.

JOS. DOERR, Engineer of West St. Paul Station.

WM. WALSH, Assistant Engineer of West St. Paul Station.

[illegible]

[illegible]

BOARD OF WATER COMMISSIONERS

[illegible]

[illegible]

[illegible] authorized shall be made payable on said June 1, 1893, and all of said [illegible] shall be taken and considered by said board as part of its sinking [illegible] under the provision above quoted there are now in the custody of the [illegible] certificates of indebtedness for the two years ending Dec. 1, 1891, the [illegible] $121,663.19

[illegible] is due the board for water furnished the city for purposes as [illegible] above, for the six months ending June 1, 1892, the [illegible] 28,401.53

[illegible] for the six months ending Dec. 1, 1892, the sum of..... 29,229.79

At this date available for sinking fund account $179,294.51

[illegible] the tax levy recommended by the Conference Committee provision was [illegible] only for the payment of $121,663.19, covering the certificates already [illegible] but no provision was made for the balance, amounting to $57,630.23, for [illegible] furnished for fire protection for year ending Dec. 1, 1892, and the in- [illegible] thereon

[illegible] Board of Water Commissioners herewith presents to your honorable [illegible] the following figures, which are estimates of the coming year's opera- [illegible]

[illegible] on hand Dec. 1, 1892..... $9,226.73

RECEIPTS (ESTIMATED).

[illegible] public buildings, parks, engine-houses and schools	$5,000.00	
[illegible] sprinkling	14,000.00	
		19,000.00
[illegible]		115,000.00
[illegible] water receipts.....		171,000.00
[illegible] from all other sources.....		3,300.00
[illegible] receipts (estimated).....		$317,526.73

EXPENDITURES (ESTIMATED).

[illegible] extensions and betterments.....	$79,486.00	
[illegible] complete contracts of last year.....	3,690.00	
[illegible] for funds borrowed on account extensions [illegible] and necessitated on account delay in [illegible] sprinkling and other bills, due but not yet [illegible]	25,000.00	
[illegible] and operating expenses	39,000.00	
[illegible] from wells.....	3,500.00	
[illegible]	4,000.00	
[illegible] mortgage tax.....	300.00	
[illegible]	115,000.00	
[illegible] being interest paid on certificates June [illegible] to be turned in on that account Jan. 10, '93	5,627.19	
		275,603.19
[illegible] estimated).....		$41,923.56

SECRETARY'S REPORT.

OFFICE OF THE BOARD OF WATER COMMISSIONERS,
ST. PAUL, Dec. 1, 1892.

To the President and Members of the Board of Water Commissioners,

GENTLEMEN: I respectfully submit to your honorable board my eleventh (11th) annual report, with accompanying statements showing in detail, under appropriate heads, the financial operations of the water department for the year ending Nov. 30, 1892. Also comparative statements of receipts and disbursements from Aug. 10, 1882 (the time of the purchase of the works by the city), to date.

REVENUE.

Cash on hand Dec. 1, 1891		$7,450.36
General water receipts	$171,164.69	
Miscellaneous water receipts	3,782.19	
Connections (street services)	19,707.70	
Extensions	617.38	
Shutting off and turning on water (penalties)	103.00	
Repairs	56.10	
Construction (new supply)	1,500.00	
Interest	5,627.19	
Frontage tax	112,062.57	
Bills payable	35,000.00	
		349,640.82
Total		$357,091.20

DISBURSEMENTS.

General maintenance	$35,349.12	
Connections (street services)	20,785.75	
Repairs	3,785.02	
Meters	4,132.94	
Extensions	118,343.20	
Construction (new supply)	41,327.25	
Interest	114,302.78	
Frontage tax refunded	338.41	
Bills payable	10,000.00	
Total		347,864.47
Balance		$9,226.73

The general water receipts, including high and low service and meters, were one hundred seventy-one thousand one hundred sixty-four dollars and sixty nine cents ($171,164.69), an increase of eleven thousand six hundred three dollars and forty cents ($11,603.40) over 1891, of which six thousand nine hundred ninety-nine dollars and thirteen cents ($6,999.13) was from high service, nineteen dollars and five cents ($19.05) from low service, and four thousand [illegible] hundred eighty-five dollars and twenty-two cents ($4,585.22) from meter [illegible]ters.

[illegible]

[illegible]

dred thirty-six dollars and eighty-six cents ($20,336.86) for salaries of all officers, employes, office expenses, fuel and all other expenses necessary for maintaining the works; four thousand one hundred thirty-two dollars and ninety-four cents ($4,132.94) was for meters and labor connected with same, twenty thousand seven hundred eighty-five dollars and seventy-five cents ($20,785.75) was paid on account of street services, for labor, lead pipe, brass goods, tools and stop-cock boxes.

One hundred eighteen thousand three hundred forty-three dollars and twenty cents ($118,343.20) was paid on account of city extensions, of which sixty-three thousand one hundred eighty-five dollars and sixty-four cents ($63,185.64) was for cast-iron pipe and special castings, thirty-three thousand five hundred and seventy-seven dollars and sixty-six cents ($33,577.66) for labor laying same, six thousand six hundred eighty-nine dollars and twenty-eight cents ($6,689.28) for fire hydrants, three thousand six hundred fifty-one dollars and forty-eight cents ($3,651.48) for pig lead and hemp packing, three thousand five hundred seventy-eight dollars and forty cents ($3,578.40) for valves and valve boxes, and seven thousand six hundred sixty dollars and seventy-four cents ($7,660.74) for tools, lumber, buildings and supplies; forty-one thousand three hundred twenty-seven dollars and twenty-five cents ($41,327.25) was paid on account of construction, of which sixteen thousand dollars ($16,000) was for balance due the E. P. Allis Company of Milwaukee on the new six-million-gallon triple expansion engine.

All work in laying mains and putting in service pipes has been done by day's work as usual. The pay rolls of all officers and employes for the year amounted to sixty-nine thousand one hundred forty dollars and five cents ($69,140.05), and the average monthly employes has been 158.

CONTRACTS.

Contracts have been let during the year amounting to ninety-eight thousand six hundred and fifteen and eleven one-hundredths ($98,615$\frac{11}{100}$), of which ninety-five thousand one hundred seventy dollars and twenty-nine cents ($95,170.29) has been paid, leaving a balance of thirty-four hundred forty-four dollars and eighty-two one-hundredths ($3,444.$\frac{82}{100}$) to be paid when the work is completed and accepted.

FRONTAGE TAX.

There has been collected during the year by the county treasurer one hundred and twelve thousand eighty-two dollars and fifty-seven cents ($112,082.57) on account of frontage tax, of which sixty-one dollars and seventeen cents ($61.17) was for the years 1884-5-6 and 7, and ninety-three dollars and ninety-seven cents ($93.97) for the year 1888, one thousand five hundred twenty-two dollars and sixty-six cents ($1,522.66) for the year 1889, twelve thousand one hundred eleven dollars and forty-nine cents ($12,111.49) for the year 1890, ninety-eight thousand two hundred ninety-three dollars twenty-eight cents ($98,293.28) for the year 1891, leaving a balance due of twenty-nine thousand

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] COMMISSIONERS

TRIAL BALANCE, DECEMBER 1, 1892

Account	Dr.	Cr.
[illegible] water works (original purchase)	[illegible]	
[illegible] account		[illegible]
Cement water receipts		[illegible]
Miscellaneous water receipts		[illegible]
Connection account (street services)		[illegible]
Extension account	[illegible]	
General maintenance	[illegible]	
Repair	[illegible]	
Meter	25,[illegible]	
Construction	1,[illegible]	
Interest	918,368.75	
Central R. Miller, city treasurer	7,358.70	
Shutting off and turning on water (penalty)		1,315.00
Percentage tax		435,543.70
Bills payable		25,000.00
Cash on hand	1,868.03	
Total	$4,442,641.83	$4,442,641.83

TRIAL BALANCE, DECEMBER 1, 1892.

Account.	Dr.	Cr.
St. Paul water works (original purchase)	$510,000.00	
Bond account		$2,460,000.00
General water receipts		1,824,167.84
Miscellaneous water receipts		179,898.53
Connection account (street services)		16,716.76
Extension account	1,714,118.43	
General maintenance	239,915.96	
Repair	38,461.65	
Meter	25,974.40	
Construction	1,085,975.91	
Interest	818,968.75	
Conrad W. Miller, city treasurer	7,358.70	
Shutting off and turning on water (penalty)		1,315.00
Frontage tax		435,543.70
Bills payable		25,000.00
Cash on hand	1,868.03	
Total	$4,442,641.83	$4,442,641.83

RECEIPTS AND DISBURSEMENTS FROM AUG. 10, 1892, TO DEC. 1, 1892.

BALANCE.

General water receipts, high service	$274,110.77		
" " " low service	674,951.55		
" " " meters	375,105.52		
		$1,324,167.84	
Miscellaneous receipts, builders	32,268.14		
" " water carts	3,796.13		
" " flushing sewers and hydrant streams.	8,840.08		
" " filling cisterns	18,018.41		
" " sprinkling streets	116,975.82		
		179,898.53	
Connections — services		240,468.88	
Extension		26,946.16	
Interest		67,964.84	
Frontage tax		426,582.75	
Shutting off and turning on water		1,315.00	
Repair		3,230.53	
Bonds		2,110,000.00	
Construction		3,008.33	
Bills payable		652,000.00	
Total receipts			$5,046,582.86

DISBURSEMENTS.

General Maintenance—			
Salaries	$136,834.71		
Stationery and printing	8,419.59		
Miscellaneous	4,020.39		
Labor	31,340.52		
Material and fuel	53,276.05		
Stable { Feed	3,762.69		
Stable { Repairs	2,235.76		
Connections —		$239,889.71	
Labor	120,270.96		
Pipe	64,078.72		
Brass goods and stop boxes	33,397.29		
Tools and miscellaneous	6,004.38		
Repairs —		223,751.37	
Hydrants { Labor	24,737.40		
Hydrants { Material	1,234.35		
Valves { Labor	291.68		
Valves { Material	229.50		
Mains { Labor	13,350.34		
Mains { Material	1,977.76		
Meters —		41,821.03	
Labor	7,977.37		
Freight and meters	17,868.03		
Extensions —		25,845.40	
Pipe and special castings	924,931.68		
Labor	539,669.30		
Tools and repairs of same	17,166.46		
Advertising	277.24		
Fire hydrants	38,414.23		
Valves	69,910.61		
Lead and hemp packing	60,006.42		
Lumber and material	17,881.18		
Miscellaneous and building account	23,047.04		
Construction (new supply) —		1,741,304.16	
Pipe and special castings	175,068.36		
Labor	533,923.95		
Tools and repairs of same	5,019.55		
Lumber and material	84,197.46		
Freight	9,374.01		
Engineering and right of way	115,728.74		
Miscellaneous and building account	18,203.31		
Reservoirs	147,261.44		
		1,088,771.82	
Interest		886,933.59	
Refunded frontage tax		1,039.05	
Bills payable		628,000.00	
Bonds		160,000.00	
Total disbursements			$5,037,356.13
Balance			$9,226.73

WARRANTS PAID IN THE TREASURY

[illegible]				
[illegible]	Warrant No. [illegible]	[illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
				[illegible]
[illegible]	Warrants [illegible]		[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
				[illegible]
[illegible]	Warrants Nos. [illegible]		[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
				[illegible]
[illegible]	Warrants Nos. [illegible]		[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
				[illegible]
[illegible]	Warrants Nos. [illegible]		[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
[illegible]	Warrant No. [illegible]		[illegible]	
				[illegible]
[illegible]	Warrants Nos. [illegible]		[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
				[illegible]
[illegible]	Warrant No. [illegible]		[illegible]	
[illegible]	Warrants Nos. [illegible] to [illegible]	[illegible]	[illegible]	
[illegible]	Warrant No. [illegible]		25,000.00	
				50,645.22
[illegible]	Warrant No. [illegible]		7,242.01	
[illegible]	Warrants Nos. [illegible] to [illegible]		18,309.64	
[illegible]	Warrant No. [illegible]		8,750.00	
				34,301.65
[illegible]	Warrant No. [illegible]		10,291.06	
[illegible]	Warrants Nos. [illegible] to [illegible]		11,932.12	
[illegible]	Warrants Nos. [illegible] to [illegible]		1,004.67	
				23,227.85
				$347,864.47
	Balance			$7,358.70

BOND ACCOUNT, DECEMBER 1, 1892.

Date of Legislative Acts Authorizing Issue of Bonds.	Amount of Bonds Authorized.	Date of Bonds Issued.	When Due.	Amount of Bonds Issued.	Rate, Per Cent.	Interest Payable.												Total Annual Interest.
						December 1st.	January 2d.	February 1st.	March 2d.	April 1st.	May 2d.	June 1st.	July 2d.	August 1st.	September 1st.	October 1st.	November 2d.	
Feb. 10, 1881...	$600,000	Jan. 1, 1882.....	30 years.....	$350,000	4	$7,000	.....	.....	.....	.....	.....	$7,000	.....	.....	.....	.....	.....	$14,000
Jan. 26, 1883...	500,000	Aug. 1, 1883.....	30 years.....	150,000	5	.....	.....	$3,750	.....	.....	.....	.....	.....	$3,750	.....	.....	.....	7,500
Feb. 21, 1885...	800,000	April 1, 1884.....	25 & 30 yrs.	600,000	5	.....	.....	.....	.....	$15,000	.....	.....	.....	.....	.....	$15,000	.....	30,000
Jan. 31, 1887...	200,000	April 1, 1885.....	30 years.....	400,000	5	.....	.....	.....	.....	10,000	.....	.....	.....	.....	.....	10,000	.....	20,000
Jan. 31, 1887...	160,000	May 2, 1887.....	30 years.....	200,000	4½	.....	.....	.....	.....	.....	$4,500	.....	.....	.....	.....	.....	$4,500	9,000
March 29, 1889	300,000	March 1, 1888...	30 years.....	300,000	4½	.....	.....	.....	$6,750	.....	.....	.....	.....	.....	$6,750	.....	.....	13,500
.....	.....	Jan. 1, 1889.....	30 years.....	100,000	4½	.....	$2,250	.....	.....	.....	.....	.....	$2,250	.....	.....	.....	.....	4,500
.....	.....	Jan. 2, 1889.....	30 years.....	160,000	4½	.....	3,600	.....	.....	.....	.....	.....	3,600	.....	.....	.....	.....	7,200
.....	.....	May 1, 1889.....	30 years.....	100,000	4½	.....	.....	.....	.....	.....	2,250	.....	.....	.....	.....	.....	2,250	4,500
.....	.....	May 1, 1890.....	30 years.....	100,000	4	.....	.....	.....	.....	.....	2,000	.....	.....	.....	.....	.....	2,000	4,000
	$2,560,000	.....	.....	$2,460,000	.....	$7,000	$5,850	$3,750	$6,750	$25,000	$8,750	$7,000	$5,850	$3,750	$6,750	$25,000	$8,750	$114,200

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THE FOLLOWING TABLE SHOWS THE NUMBER OF APPLICATIONS MADE FOR WATER SERVICES ANNUALLY FROM 1869 TO DATE.

Year.	High Service.	Low Service.	Total.
1869		34	
1870		321	
1871		250	
1872		164	
1873		131	
1874		153	
1875		95	
1876		85	
1877		67	
1878		50	
1879		180	
1880		167	
1881		164	
1882		264	
1883		301	2,426
1884	164	336	500
1885	644	365	1,009
1886	639	369	1,008
1887	747	325	1,072
1888	812	406	1,218
1889	1,327	491	1,818
1890	1,071	336	1,407
1891	811	264	1,075
1892	674	207	881
Total	6,886	5,528	12,414

PUMPING PLANTS.

EXPENSE MAINTAINING THE THREE (3) PUMPING STATIONS AND RESERVOIR.

Station.	Salaries.	Fuel.	Waste and Machine Oil.	Repairs.	Kerosene Oil.	Total.
McCarron Lake Station	$3,575.00	$5,400.89	$302.36	$37.82	$36.75	$9,352.82
Baldwin Lake Station	1,062.08	941.00	56.28	56.12	11.90	2,127.39
Vadnais Lake Station	1,020.00	1,905.25	73.71	102.19	25.90	3,127.05
Reservoir	405.00					405.00
	$6,062.08	$8,247.14	$432.35	$196.14	$74.55	$15,012.26

LIST OF VOUCHERS PAID FROM DEC. 1, 1891, TO DEC. 1, 1892.

DECEMBER, 1891.

No. of Voucher.	Name.	Claim.	Amount.
5238	John Caulfield, secretary	Pay roll, November, 1891	$5,535.15
5239	P. V. Dwyer & Bros.	Gas bracket, office	2.25
5240	John Martin Lumber Co.	Lumber	41.55
5241	George J. Mitsch & Co.	Supplies	7.80
5242	Prendergast Bros.	Sheet iron	1.35
5243	George J. Mitsch	Blacksmithing and repairs	52.60
5244	Allen & Co.	Livery	1.50
5245	D. Ramsley & Son	Postal cards and printing	13.50
5246	Dill & Ryan	Horseshoeing	1.50
5247	Lauer Bros.	Mason work	30.35
5248	Northwestern Shot and Lead Works	Lead pipe	391.92
5249	Brennan Lumber Co.	Lumber	6.50
5250	George J. Grant	Rent of pump	15.00
5251	P. H. Kelly Mercantile Co.	Oil, etc.	11.60
5252	P. N. Lindquist	Horseshoeing	12.50
5253	H. P. Rugg & Co.	Pipe, valves and fittings	44.91
5254	Adam Decker & Co.	Tools and hardware	18.50
5255	J. G. Duggan	Sharpening tools	27.30
5256	Robinson & Cary Co.	Black iron pipe, etc.	157.98
5257	C. W. Hackett Hardware Co.	Sleigh bells	1.00
5258	D. L. Bell	L. cement	7.50
5259	Chester Oil Co.	Oil and gasoline	25.40
5260	Tierney & Co.	Feed	11.54
5261	Richard Price	Veterinary services	6.00
5262	M. F. Fielding	Relaying pavement	63.05
5263	E. McNamee	Feed	5.09
5264	Brown, Treacy & Co.	Stationery	2.05
5265	Farwell, Ozmun, Kirk & Co.	Steel nails	2.10
5266	N. W. Fuel Co.	Estimate No. 4, fuel	1,202.72
5267	A. C. Mossbrugger	Hauling coal, etc.	36.70
5268	James Gilfillan	Rent of storage lot	12.50
5269	L. W. Rundlett	Engineer expenses at lake	31.67
5270	St. Paul Herald	Job printing, etc.	48.00
5271	M. F. Kain	Clerk hire, frontage tax	102.00
5272	Schroeder & Weyh	Cutter and bob sleigh	50.00
5273	Taylor-Craig Corporation	Storm sash	33.16
5274	John Caulfield, secretary	Cash advanced	42.86
	Total		$8,066.11

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LIST OF VOUCHERS—*Continued.*

FEBRUARY, 1892.

No. of Voucher.	Name.	Claim.	Amount.
5335	John Caulfield, secretary	Pay roll, January, 1892	$3,134.43
5336	Geo. Reis, city treasurer	Interest due Feb. 1, 1892	3,750.00
5337	James Gilfillan	Rent of storage lot	12.50
5338	Pioneer Press Co	Ten frontage tax books	20.00
5339	Geo. A. Dougher	Feed	6.77
5340	C. Collins	Sharpening tools	1.50
5341	D. K. Osbourne	Cleaning safe, lock, etc	2.00
5342	Northwestern Stamp Works	One wax seal	1.00
5343	Tierney & Co	207 11-32 bushels oats, 31 cents	64.27
5344	Northwestern Shot & Lead Works	Lead pipe	109.14
5345	Henry R. Worthington	Meters	149.76
5346	W. E. Magraw	Daily Globe, Nov. 1, '91, to Feb. 1, '92	2.55
5347	Scribner-Libbey Co	Two copper floats	4.00
5348	D. L. Curtice	Mounted sheets city atlas	53.00
5349	Geo. J. Mitsch	Supplies	4.46
5350	Brown, Treacy & Co	Stationery	10.70
5351	H. P. Rugg & Co	Pipe and fittings	178.73
5352	J. G. Duggan	Blacksmithing	59.50
5353	Brennan Lumber Co	Lumber	2.40
5354	P. H. Kelly Mercantile Co	Oil, etc	21.40
5355	Farwell, Ozmun, Kirk & Co	Tools	3.07
5356	Pioneer Press Co	Advertising	6.50
5357	Kenny Bros	Repairing boilers	43.00
5358	John Caulfield, secretary	Advance for hay, frontage tax refund, etc	56.05
5359	D. Ramaley & Son	Printing and binding	13.50
5360	Die Volkszeitung	Advertising	1.92
5361	H. C. Mossbrugger	Hauling coal	21.42
5362	Adam Decker & Co	Brass butts, etc	.45
5363	Donaldson, Ogden & Co	Lamp wicks	.41
5364	Nicols & Dean	Iron, three bars 3-16	.30
5365	P. N. Lindquist	Horseshoeing	5.75
5366	John Martin Lumber Co	Lumber	6.16
5367	Robinson & Cary Co	One No. 4 Morris horiz. pump, etc	146.27
5368	J. Bulens	Blacksmithing	.80
5369	St. Paul Herald	Blank books and printing	31.50
5370	Rogers & Ordway	Pipe and fittings	9.51
5371	The Dispatch Printing Co	Advertising	3.60
5372	D. L. Bell	Cement, fire brick, etc	25.25
5373	Boeringer & Son	Indicator for gate chamber	7.70
5374	J. W. Makinson	Work on gate chamber	9.10
5375	St. Paul Rubber Co	Steam hose	6.00
5376	Geo. J. Mitsch	Blacksmithing	8.00
5377	Dill & Ryan	Horseshoeing	3.00
5378	Northwestern Fuel Co	Estimate, No. 6, fuel	1,427.00
5379	Mahle Sutmar	Repairing and painting wagon	31.75
5380	St. Paul Brass Works	Repairing pump	1.25
5381	St. Paul Foundry Co	Iron floor, pump station	1,448.00
	Total		$10,905.37

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LIST OF VOUCHERS—*Continued.*

APRIL, 1892.

No. of Voucher.	Name.	Claim.	Amount.
5421	John Caulfield, secretary	March, 1892, pay roll	$2,881.91
5422	Geo. Reis, city treasurer	Interest, due April 1st	25,000.00
5423	James Gilfillan	Rent of storage lot	12.50
5424	Henry R. Worthington	Meters and fixtures	429.46
5425	National Meter Co.	Crown meters	152.00
5426	P. H. Kelly Mercantile Co.	Oil and printing	88.95
5427	Brown, Treacy & Co.	Stationery	4.60
5428	St. Paul Foundry Co.	Iron casting	5.53
5429	Robert Seeger	Gasoline	1.00
5430	Farwell, Ozmun, Kirk & Co.	Powder and fuse	4.85
5431	Brennan Lumber Co.	Lumber	4.30
5432	F. N. Lindquist	Horseshoeing	7.00
5433	Jos. Bulena	Blacksmithing	2.95
5434	J. G. Duggan	Blacksmithing	29.70
5435	Globe Publishing Co.	Advertising	12.09
5436	W. C. Smith Co. assessor	Writing frontage tax books, 1892	1,000.00
5437	Northwestern Fuel Co.	Estimate No. 8, fuel	299.00
5438	A. C. Mossbrugger	Hauling coal	31.44
5439	Taylor-Craig Corporation	Removing storm sash	1.25
5440	Wm. Spicer	Wood	86.88
5441	August Luttige	Wood	132.00
5442	J. Arth	Wood	20.62
5443	J. Hughes	Wood	51.25
5444	August Hidine	Wood	126.50
5445	Chas. Lehman	Wood	96.25
5446	Albert Rehbein	Wood	27.50
5447	South Park Bolt & Bridge Works	Screens for gate house	88.00
5448	Scribner-Libbey Co.	Making steel bolt	.85
5449	Geo. J. Mitsch & Co.	Supplies	5.28
5450	Pioneer Press Co.	Printing	3.00
5451	J. F. McCarthy	Estimate No. 2, artesian well	1,235.21
5452	Northwestern Shot & Lead Works	Lead pipe	201.73
5453	J. W. Makinson	Labor on screens and wells	12.20
5454	W. E. Magraw	Subscription to Globe	2.55
5455	Rogers & Ordway	Estimate No. 1, stop boxes	999.60
5456	John Caulfield, secretary	Cash advanced	68.80
5457	Robinson & Cary Co.	Machine supplies	39.21
5458	Wilhelmine Blum	Reservoir lots, West St. Paul	1,800.00
5459	Pioneer Press Co.	Advertising	3.00
5460	Rogers & Ordway	Plumber supplies	1.88
5461	J. M. Rossell	One duck screen	6.75
5462	Chas. Friend & Son	Harness fittings	2.85
5463	Allen & Co.	Carriages, funeral W. Lindeke	6.00
5464	Miles & Hale	Repairing lock, vault door	2.50
5465	D. L. Bell	Cement	2.50
5466	Dill & Ryan	Horseshoeing	2.00
5467	Michael Lynch	92½ bushels oats	29.55
5468	H. Muller Manufacturing Co.	One-half inch com. drill and taps	20.40
5469	Michael Mullane	Hauling lead pipe	10.03
5470	Michigan Brass & Iron Works	Automatic valves	278.00
5471	G. A. Dougher	Corn and bran	7.30
5472	Chester Oil Co.	Oil	9.00
5473	Northwestern Shot & Lead Co.	Estimate No. 1 and final, pig lead	1,446.60
	Total		$36,793.78

LIST OF VOUCHERS—*Continued.*

JUNE, 1892.

No. of Voucher.	Name.	Claim.	Amount.
5512	John Caulfield, secretary	Pay roll for May, 1892	$5,492.01
5513	John Caulfield, secretary	Frontage tax refunded	76.82
5514	John Caulfield, secretary	Cash advanced	43.37
5515	Robert W. Hunt & Co.	Estimate, No. 1, inspecting pipe	108.45
5516	Union Water Meter Co.	Meters	331.75
5517	Martin Feist	Lunch, men cleaning conduit	4.50
5518	M. Shouse	Trees, Merriam Park	5.00
5519	Board of Fire Commissioners	Hose	66.80
5520	James Gilfillan	Rent of storage lot	12.50
5521	Allen & Co.	Livery	2.50
5522	Geo. Mitsch	Supplies	33.75
5523	Rogers & Ordway	Estimate, No. 2, boxes	680.00
5524	Michigan Brass & Iron Works	Estimate, No. 2, valves	1,743.80
5525	Hersey Manufacturing Co.	Meters	272.00
5526	National Meter Co.	Meters	71.25
5527	Michael Lynch	Oats	30.99
5528	J. P. Dill	Horseshoeing	2.00
5529	Anton Wenzel	Maul timber	2.00
5530	August Hideen	Blasting timber	20.00
5531	Thos. Silcox, for Martin & Strane	Estimate, No. 1, drayage	319.23
5532	J. W. Makinson	Labor and material, Vadnais lake	32.75
5533	J. G. Duggan	Blacksmithing	18.50
5534	C. Collins	Blacksmithing	30.96
5535	Robinson & Cary Co.	Machine supplies	53.39
5536	Farwell, Ozmun, Kirk & Co.	Powder, fuse and hardware	44.19
5537	D. L. Bell	Cement and fire brick	12.40
5538	John Martin Lumber Co.	Lumber	19.10
5539	Taylor-Craig Corporation	Hydrant boxes	30.00
5540	St. Paul Hardware Co.	Hammers	5.25
5541	A. Decker & Co.	Trowels	1.10
5542	St. Paul Brass Works	Rep'ring furnace and making valve	31.05
5543	H. P. Rugg & Co.	Plumbers' supplies, etc.	7.98
5544	P. N. Lindquist	Horseshoeing	7.25
5545	Jos. Bulena	Blacksmithing	1.75
5546	Brennan Lumber Co.	Lumber	2.05
5547	Robert Wellisch	Estimate, No. 1, special cast, etc.	250.80
5548	Donaldson, Ogden & Co.	Lanterns and fixtures	1.45
5549	Geo. J. Mitsch & Co.	Supplies	15.50
5550	Gehan Bros.	Insurance	18.00
5551	Robert Seeger	Gasoline	1.00
5552	Chas. Friend & Son	Harness repairs, etc.	3.60
5553	J. P. Dill	Horseshoeing	2.00
5554	Fielding & Shepley	Repaving	136.65
5555	Pioneer Press Co.	Stationery	19.75
5556	Allen & Co.	Livery	12.00
5557	Nicols & Dean	Iron, bolts, etc.	3.37
5558	Northwestern Fuel Co.	Estimate, No. 9, coal	1,451.11
5559	Northwestern Fuel Co.	Estimate, No. 10, coal	109.79
5560	Van Doren & Wirtz	Wool felt covering	3.51
5561	W. H. Walcott, manager	Repairing numbering machine	2.50
5562	Robert W. Hunt & Co.	Estimate, No. 2, pipe inspection	170.93
5563	Brown, Treacy & Co.	Stationery, etc.	20.75
5564	Western Electric Co.	Estimate, No. 1 and final, elec. plant	970.00
5565	Western Electric Co.	Lamps, etc.	11.26
5566	A. C. Mossbrugger	Hauling coal, etc.	56.53
5567	Kenney Bros.	Labor and material	41.26
5568	P. H. Kelly Mercantile Co.	Oil, printing, etc.	101.78
5569	Conrad W. Miller, city treasurer	Interest, due June 1, 1892	7,000.00
5570	Dennis Long & Co.	Estimate, No. 2, iron pipe	14,504.47
5571	E. P. Allis & Co.	Estimate, No. 2, pump	8,000.00
	Total		$42,524.45

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LIST OF VOUCHERS—*Continued.*

AUGUST, 1892.

No. of Voucher.	Name.	Claim.	Amount.
5630	John Caulfield, secretary	Pay roll for July, 1892	$8,914.85
5631	Conrad W. Miller, city treasurer	Interest due Aug. 1, 1892	3,750.00
5632	Michigan Brass & Iron Works	Estimate, No. 3, valves	729.30
5633	John G. Schmidt	Boat for Vadnais lake	20.00
5634	John Rogers, Jr., & Bro	Insurance	30.00
5635	J. P. Dill	Horseshoeing	2.00
5636	Fielding & Shepley	Relaying pavement	66.12
5637	Northwestern Wheel & Foundry Co	Wood car for Baldwin lake	35.00
5638	W. E. Magraw	Daily Globe, May 1, to Aug. 1, 1892	2.55
5639	Vacuum Oil Co	Machine oil	40.63
5640	Martin Feist	Meals for men cleaning conduit	4.00
5641	Pioneer Press Co	Job printing	11.75
5642	D. Ramaley & Son	Job printing	5.25
5643	Northwestern Shot & Lead Works	Lead pipe	20.78
5644	J. P. Gribben	Lumber	6.72
5645	Benton, Robert & Brown	As attorneys for judgment of Brooks & Byerly vs. Board	9,951.30
5646	H. P. Rugg & Co	Pipe fittings	4.05
5647	H. R. Worthington	Meter fittings	4.80
5648	P. H. Kelly Mercantile Co	Oil, candles, etc	10.10
5649	Justus Kahlert	Cast steel for piston rod, etc	3.75
5650	Ames, Ebert & Co	Lamp guards	1.50
5651	Nicols & Dean	Chain	3.00
5652	D. L. Bell	Cement	8.75
5653	A. C. Mossbrugger	Coal	11.00
5654	P. N. Lindquist	Horseshoeing	9.00
5655	F. W. Luley & Son	Tallow	1.00
5656	St. Paul Stone Co	Cement tile	1.20
5657	William Nelson	Rent of boat, Lake Phalen	7.25
5658	Thomas Silcox, for Martin & Strane	Drayage, pipe, etc	246.96
5659	George J. Mitsch & Co	Supplies	10.35
5660	C. Collins	Sharpening tools	2.00
5661	Dennis Long & Co	Estimate, No. 4, pipe, etc	4,967.88
5662	Allen & Co	Livery	8.00
5663	Charles Friend & Son	Horse fly net	2.25
5664	Northwestern Fuel Co	Estimate, No. 12, fuel	15.25
5665	John Martin Lumber Co	Lumber	55.17
5666	J. G. Duggan	Blacksmithing	43.50
5667	Farwell, Ozmun, Kirk & Co	Tools	17.25
5668	Rogers & Ordway	Estimate, No. 4, valve and stop boxes	317.05
5669	Rogers & Ordway	Pipe fittings	36.51
5670	Robert Wellisch	Estimate, No. 3, fire hydrants	1,825.00
5671	Robert Wellisch	Halfsleeve castings, etc	57.49
5672	Robinson & Cary Co	Pipe, packing, etc	93.49
5673	Frank W. Hadfield, agent	Estimate, No. 1 and final, sewer pipe	373.80
5674	J. P. Dill	Horseshoeing	3.25
5675	Brown, Treacy & Co	Stationery	6.50
5676	Robert Seeger	Gasoline	.50
5677	John Kodylek	Estimate, No. 1, painting	50.00
5678	Charles A. F. Morris	Building permit, West side pump house	5.00
5679	Fielding & Shepley	Relaying pavement	106.33
5680	John Caulfield, secretary	Cash advanced	29.42
5681	John Caulfield, secretary	Frontage tax refunded	86.38
5682	Robert W. Hunt & Co	Estimate, No. 4	60.46
5683	Kenneth Ryan	Estimate, No. 1 and final, pig lead and lead pipe	4,248.94
5684	George A. Dougher	Bran	1.34
5685	Finch, Van Slyke & Co	Curtain cord	.50
5686	James Gilfillan	Rent of storage lot	12.50
5687	N. W. Telephone Exchange Co	Use of inst. at McCarron lake	3.00
	Total		$36,341.22

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[illegible]	[illegible]	[illegible]

LIST OF VOUCHERS—*Continued.*

OCTOBER, 1892.

No. of Voucher.	Name.	Claim.	Amount.
5735	John Caulfield, secretary	Pay roll for September, 1892	$7,242.01
5736	National Meter Co.	Meter wheels	1.20
5737	F. W. Luley & Son	Tallow	1.00
5738	St. Paul Brass Works Co.	Repairs	24.50
5739	Goodyear Rubber Co.	Hose, etc	66.24
5740	Northwestern Telephone Co.	Repairing telephone	.90
5741	H. W. Phillips	Recording papers	5.35
5742	Fielding & Shepley	Relaying pavement	95.98
5743	St. Paul Rubber Co.	Rubber cloth	.80
5744	Robert Seeger	Gasoline	1.00
5745	J. H. Delaney	Scrap lead	10.17
5746	J. F. McCarthy	Artesian well, Wilkinson lake	456.57
5747	The E. P. Allis Co.	Estimate, No. 4 and final	833.99
5748	Thos. Silcox, for Martin & Strane	Estimate, No. 5, drayage	191.69
5749	G. W. Dorrance	Est., No. 2 and final, house, Vadnais	1,033.10
5750	Fairbanks, Morse & Co.	Estimate, No. 1, water tank	1,870.00
5751	Robinson & Cary Co.	Est., No. 1, pump mach., W. St. Paul	1,900.00
5752	Andrew Toomey	Est., No. 2, W. St. Paul pump house	1,650.00
5753	Robert Wellisch	Estimate, No. 4, fire hydrants	1,825.00
5754	Robert Wellisch	Sixteen-inch plugs, etc	16.25
5755	John Dowlan & Sons	Rent of portable engine	4.00
5756	C. Collins	Blacksmithing	2.75
5757	Mitsch Wagon & Carriage Co.	Repairs	3.30
5758	The Eschelman Shoeing Co.	Shoeing	3.00
5759	Allen & Co.	Livery	8.00
5760	W. E. Magraw	Daily Globe, Aug. 1, to Nov. 1, 1892	2.55
5761	Brown, Treacy & Co.	Stationery and printing	28.30
5762	Pioneer Press Co.	Advertising	1.00
5763	J. G. Duggan & Co.	Blacksmithing	58.70
5764	P. H. Kelly Mercantile Co.	Oil, candles, etc	13.40
5765	H. P. Rugg & Co.	Pipe, fittings, etc	15.26
5766	Robinson & Cary Co.	Pipe, shovels, etc	215.31
5767	Farwell, Ozmun, Kirk & Co.	Tools	24.26
5768	Northwestern Fuel Co.	Estimate, No. 14	10.25
5769	The Globe Publishing Co.	Advertising	1.00
5770	D. L. Bell	Cement	81.90
5771	Brennan Lumber Co.	Lumber	6.50
5772	Geo. H. Watson & Co.	Insurance	6.00
5773	John Rogers, Jr., & Bro.	Insurance	6.00
5774	Jas. Gilfillan	Rent of storage lot	12.50
5775	J. P. Gribben Lumber Co.	Lumber	14.00
5776	Dennis Long & Co.	Estimate, No 6, iron pipe	7,332.56
5777	Robert W. Hunt & Co.	Inspecting pipe	162.56
5778	Robert Seeger	Gasoline	1.00
5779	Goodyear Rubber Co.	Rubber boots	14.00
5780	Rogers & Ordway	Pipe and fittings	73.58
5781	Rogers & Ordway	Estimate, No. 6, stop boxes	128.25
5782	Chicago, Milwaukee & St. Paul R. R. Co.	Labor on Summit ave. crossing	15.80
5783	Geo. J. Mitsch & Co.	Repairs	5.26
5784	St. Paul Brass Works	Repairs	7.30
5785	John Caulfield, secretary	Cash advanced	19.76
5786	Geo. H. Lueders	Medicines for S. Schultz, injured	12.90
5787	J. P. Dill	Horseshoeing	1.50
5788	Conger Bros.	Medicines for M. Urban, injured	28.20
5789	D. Ramaley & Son	Job printing	5.25
5790	C. W. Miller, city treasurer	Interest, due Nov. 1, 1892	8,750.00
	Total		$34,301.65

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SUPERINTENDENT'S REPORT.

ST. PAUL, Dec. 1, 1892.

To the Honorable President and Members of the Board of Water Commissioners.

GENTLEMEN: I have the honor to transmit herewith my eleventh annual report showing the work done during the past year and the present condition of the works.

The following statement shows the extensions made this season:

LOW SERVICE.

	Feet.
Four (4) inch pipe	673
Six (6) inch pipe	5,048
Sixteen (16) inch pipe	1,505
A total on low service of	7,226

Or 1 mile and 1,246 feet.

HIGH SERVICE.

	Feet.
Four (4) inch pipe	552
Six (6) inch pipe	21,149
Twelve (12) inch pipe	9,621
Sixteen (16) inch pipe	7,365
Twenty (20) inch pipe	1,716
A total on high service of	40,303

Or 7 miles and 5,243 feet.

WEST SIDE HIGH SERVICE.

	Feet.
Six (6) inch pipe	16,490
Twelve (12) inch pipe	6,279
Sixteen (16) inch pipe	3,950
A total on West Side high service of	26,719

Or 5 miles and 319 feet.

Grand total of mains laid this year, 14 miles and 928 feet, making a grand total of supply and distribution mains to date of 213 miles and 1,910 feet.

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[illegible]

[illegible]

[illegible]

the only supply for the Dayton's Bluff and Arlington Hills district. With a large pipe on Maryland, as recommended above, as a by-pass, there would be no interruption in the supply for these districts.

A double supply pipe across the river below the present one would be necessary. In case of accident to the pipe now in use, all of the west side of the river would be entirely without water in case of fire. [illegible] that section was put in considerable expense by the necessity of shutting off the water to repair a leak in the submerged pipe.

On the grounds of economy as well as convenience, I would recommend the purchase of a lot to be used as a pipe storage yard. It would greatly facilitate the handling of a large amount of specials and tools.

I desire to tender my thanks to the members of the board and my associates in the department for the many kindnesses shown me.

I remain, gentlemen, your obedient servant,

[illegible]

Commissioner.

PIPE LAID ON HIGH SERVICE DURING THE YEAR 1892.

Date.	Street.	From Street to Street.	4 Inch.	6 Inch.	12 Inch.	16 Inch.	20 Inch.
May 19	Cromwell	Cudworth to Pym		631			
June 13	Dooley	15 ft. e. of Raymond to Chelmsford		500			
June 13	Gordon	Nourse to Langford			230		
June 30	Langford	Gordon to Dooley			512		
June 30	Gordon	Langford to Carter		741			
June 30	Carter	W. line lt. 31, blk. 40, to County road		1,886			
June 30	Keston	Dooley to Doswell		924			
June 14	Capitol	Fairview to Wheeler		654			
June 17	Hewitt	114 ft. e. of Sheldon to Syndicate		942			
June 29	Langford	County road to Knapp			724		
June 29	Knapp	At Langford		96			
July 6	Rose	Edgerton to Payne		661			
July 6	Edgerton	At Rose			47		
July 8	Hope	Fourth to Sixth		626			
July 9	Selby	Oxford to Snelling		6,015			
July 9	Forest	Dawson to Margaret		830			
July 9	Dawson	At Forest		27			
July 18	Marshall	Victoria to Oxford			1,932		
July 19	Earl	Seventh to Cook				2,291	
July 29	St. Albans	Grand to Summit	511				
July 22	Como	Rice to Park				469	
July 28	Lyton	Rice to Sylvan		1,142			
Aug. 18	Farrington	Sherburne to Charles		328			
Sept. 4	McCarron road	Dale to reservoir					1,716
Sept. 15	Summit	Griggs to Albert			1,898		
Sept. 24	Syndicate	Lincoln to Summit		967			
Sept. 24	Lincoln	C., M. & St. P. Ry. to Hamline		1,135			
Oct. 3	Wells	Edgerton to Greenbrier		1,244			
Oct. 12	Horton	Van Slyke to Como boulevard		394			
Oct. 19	East Seventh	Phalen to White Bear				5,105	
Oct. 29	White Bear	Seventh to Ames			1,992		
Oct. 29	Stillwater	White Bear to Ames		906			
Oct. 29	Flandrau	Harvester to Stillwater		595			
Nov. 21	Harvester	White Bear to Hazel			1,306		
Nov. 21	Hazel	Harvester to 300 ft. n. of Ames			980		
Nov. 25	Summit	At Macalester	41				
Nov. 25	Macalester	Summit to Grand		405			
			552	21,149	9,621	7,865	1,716

Total 4 inch pipe 552
Total 6 inch pipe 21,149
Total 12 inch pipe 9,621
Total 16 inch pipe 7,865
Total 20 inch pipe 1,716

40,903 feet or 7 miles 3,943 feet.

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON GRAVITY SYSTEM, OR LOW SERVICE, TO DEC. 1, 1892.

Street.	From Street to Street.	4 Inch.	6 Inch.	12 Inch.	16 Inch.	20 Inch.	24 Inch.	30 Inch.	36 Inch.
Alabama	Crossing State		55						
Armstrong	Drake to Chatsworth		3,865						
Audubon	Seventh to Drake		745						
Ada	Robie to Winifred	334							
Banfil	Smith ave. to Richmond	2,280							
Bay	Stewart to Seventh		1,300						
Beaumont	De Soto to Payne		1,821						
Becker place	Lafayette to De Soto		481						
Bedford	North to Minnehaha		1,327						
Bradley	100 feet south of Grove to Minnehaha	498	1,503						
Broadway	Miss. river to University	498	1,735		1,938		1,741		
Bruno	East of Lafayette		47						
Burr	Patridge to Fauquier		2,478						
Bancroft	Concord to Congress		935						
Bidwell	Isabel to Congress		302						
Canada	Ninth to University		2,065						
Cedar	Third to Summit		289	2,573		614			
Chestnut	Seventh to Washington		1,235						
Colborne	Jefferson to Superior		1,763						
College	Cedar to Smith ave		1,670						
Collins	Lafayette to Bedford		1,016						
Cross Mississippi river	Broadway to State				1,089				
Concord	Isabel to Curtis			6,476					
Congress	350 feet east of Bancroft to Charlton	392	6,425						
Chicago	Wabasha to South Robert		741						
Colorado	Railroad to Parnell		1,240						
Clinton	Congress to Winifred		308						
Columbia	Glencoe to Pennsylvania		745						
Decatur	Bedford to Beaumont		710						
De Soto	Hopkins to Fauquier		453	1,540					
Douglas	Seventh to Ramsey		1,144						
Duke	Seventh to Cascade		1,057						
Dousman	Von Minden to Goodhue		576						
Delos	Greenwood to Stryker		2,016						
Daly	James to Jefferson		986						
Dearborn	Robert to Gorman		705						
Eagle	Spring to Seventh		1,449						
Eighth	Wabasha to 110 ft. e. of Neill	4,691							
Eleventh	Cedar to Olive	557	1,238						
Elm	Exchange to Mil. Ry	406							
Exchange	Wabasha to Wilkin	3,962							
Eaton	At Indiana and Fairfield crossing		51		100				
Edgerton	Minnehaha to Reaney		328						
Erie	St. Clair to Cascade		1,807						
Emma	Western to Short Line	373							
Fairfield	State to Wabasha		2,812						
Fauquier	Payne to De Soto			1,982					
Fifth	Third to Kittson	4,902	2,229						
Fort	Seventh to Tenth					1,616			
Fourth	Exchange to 762 ft. e. of Kittson		4,865	2,679					
Fourteenth	Broadway to Robert		1,368						
Franklin	Elm to Ninth	2,784							
Fillmore	Wabasha to State		2,808						
Fred	300 ft. e. of Burr	337							
Garfield	Ramsey to Goodrich		1,002						
Goodhue	Cliff to Duke		2,817						
Goodrich	Mil. Short Line to Richmond		1,260	1,763					
Grace	Seventh to Colborne		72						
Grove	Monroe to Jackson	133	1,310			1,544			
Glencoe	Mississippi to Columbia		592						
George	State to Stryker			2,625					

WATER MAINS, LOW SERVICE—*Continued.*

Street.	From Street to Street.	4 Inch.	6 Inch.	12 Inch.	16 Inch.	20 Inch.	24 Inch.	30 Inch.	36 Inch.
Sibley	Lever to Norris	1,638	1,450						
Sixth	Kittson to Pleasant	4,936	1,893						
Smith	Wilkin to Douglas		1,074						
Smith ave	College to McBoal		3,924						
Somerset	John to Pine	669							
Spruce	Sibley to Wacouta	39[illegible]							
State	Miss. river to W. S. pump house				7,704				
Summit ave	Robert to Cedar		859						
Stryker	George to Prospect ter ce		2,100						
Stewart	Tuscarora to bay		909						
Temperance	Eighth to Thirteenth	1,569							
Tenth	Locust to College	1,76[illegible]	2,12[illegible]			1,290			
Third	College to W. end of Third st. bridge		1,130	6,624					
Thirteenth	Pine to Jackson	310	1,76[illegible]						
Thompson	Ramsey to Pleasant		842						
Twelfth	Pine to Cedar	29[illegible]				1,274			
Tyrant	Seventh to Jefferson		69[illegible]						
Tennessee	Crossing State		[illegible]						
Tuscarora	Stewart to Mitchell		2,6[illegible]						
Von Minden	Bluemont to Western		8[illegible]						
Vine	Seventh to Plaisted		2,[illegible]						
Wacouta	Third to Sibley	[illegible]	1,[illegible]	[illegible]					
Wabasha	18th to [illegible] Pleasant	2,4[illegible]							
Warren	Audubon to Seventh		2[illegible]						
Washington	Chestnut to Sixth	[illegible]		[illegible]					
Water	Lafayette to [illegible]		4[illegible]						
Wabasha	[illegible] to Sewer		[illegible]						
Western ave	[illegible] to Pleasant		[illegible]						
[illegible]	Water to [illegible]		1,[illegible]						
[illegible]	[illegible] to Sewer	[illegible]							
[illegible]	[illegible] to Sewer	[illegible]	2,2[illegible]						
[illegible]	[illegible]	[illegible]	3,4[illegible]						
[illegible]	[illegible]	6[illegible]							
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]	[illegible]	[illegible]						
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]	6[illegible]							
[illegible]	[illegible]		[illegible]		[illegible]		[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1[illegible]

[illegible]

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON HIGH SERVICE TO DEC. 1, 1892—*Continued.*

Street.	From Street to Street.	4 Inch.	6 Inch.	12 Inch.	16 Inch.	20 Inch.	24 Inch.	36 Inch.
Farrington	Summit to Lafond		3,459					
Fauquier	290 ft. e. of Atlantic to Weide		5,273					
Fuller	Rice to 200 ft. w. of Oxford		8,092					
Fifth	125 ft. e. of Hoffman to Maple		1,543					
Floral	Grand to Summit	480						
Fourth	Forest to 400 ft. w. of Maria		3,368					
Francis	Arcade to Cypress		1,264					
Front	Sylvan to Lexington		1,140	10,499				
Forest	Conway to Geranium		3,113					
Fairmount	Dale to Victoria		2,320	518				
Feronia	Fairview to Prior		1,378					
Fremont	Earl to Arcade		2,577					
Fairview ave.	St. Anthony to Auburn				1,670			
Fry	Territorial rd. to Capitol	1,087						
Force Main	Pump house to reservoir					7,840	70	
Flandrau	Harvester to Stillwater		595					
Grand	Lawton to Lexington		5,194					
Grove	Seventh to Pine				2,618			
Grotto	Lincoln to Lafond		4,594					
Goodrich	782 ft. e. of Dale to Oxford		5,358					
Greenbrier	Seventh to Case		40	650				
Gaultier	Sherburne to Cook		2,689					
Gordon	Raymond to Carter		1,387	693				
Geranium	Arcade to Edgerton		1,303					
Genesee	Mississippi to Buffalo		814					
Granite	Mississippi to Courtland		1,622					
Hoffman	Clermont to Seventh		2,946					
Holly	Western to Victoria		5,287					
Hague	Dale to Lexington		5,181					
Hudson	Cypress to Maria		2,389	194				
Hastings	Bates to Hester			3,066				
Hewitt	Aldine to Syndicate		4,541					
Hope	Fourth to Seventh		1,156					
Hampden	Raymond to Hersey		1,646					
Harvester	White Bear to Hazel			1,306				
Hazel	Harvester to 300 ft. n. of Ames			980				
Horton	Van Slyke to Como boulevard		394					
Iglehart	Wabasha to Cleveland		14,056					
Jackson	Viola to Sycamore		236	2,237	145			
Jay	St. Anthony to Fuller		656					
Jessamine	Rice to Forest		8,186					
Jessie	Case to Jessamine		1,643					
Kent	Portland to Carroll	2,201						
Kenwood pk.	St. Albans around said park		767					
Knapp	Langford P.P.E. to Langford avenue		975					
Keston	Dooley to Doswell		924					
Laura	Waltham to University		1,211					
Laurel	Nina to Fisk		8,297					
Lawton	Grand to Selby		480					
Lincoln	Oakland to Hamline		6,610					
Louis	Nelson to Fuller		2,122					
Linden	Mt. Airy to Arch		696					
Lafond	Rice to Milton		6,978					
Lynnhurst, E. & W.	University to Feronia		1,850					
Lexington	Grand to Van Slyke				3,158			
Langford P. P. E.	Bayless to Knapp		415		427			
Langford P. P. W.	Bayless to Gordon		181	670				
Langford ave.	Scudder to Dooley			1,236	838			
Lookout place	Arkwright to Westminster		447					
Litchfield	Rice to Sylvan		1,142					
Leslie	Victoria to Chatsworth		1,256					
Lawson	Mendota to Edgerton		3,252					
Linwood	Osceola to Grotto		745					
Lyton place	Rice to Sylvan		1,142					

[illegible]

LOCATION, SIZE AND NUMBER OF FEET OF WATER MAINS LAID ON HIGH SERVICE TO DEC. 1, 189[illegible]—Continued.

Street	From Street to Street	4 inch	6 inch	12 inch	16 inch	20 inch	24 inch	30 inch
[illegible]	[illegible]		91					
[illegible]	[illegible]				1,[illegible]5			
[illegible]	[illegible]		[illegible]97					
[illegible]	[illegible]		1,[illegible]46					
[illegible]	[illegible]		10					
[illegible]	[illegible]				[illegible]45			
St. Clair	[illegible]			[illegible]35				
[illegible]	[illegible]		[illegible]88					
[illegible]	[illegible]			1,[illegible]08				
[illegible]	[illegible]		[illegible]87					
[illegible]	[illegible]		[illegible]46					
[illegible]	[illegible]	[illegible]47	1,[illegible]34					
[illegible]	[illegible]				[illegible]78			
[illegible]	[illegible]		[illegible]					
[illegible]	[illegible]		[illegible]06					
[illegible]	[illegible]		[illegible]					
[illegible]	[illegible]		1,[illegible]47					
[illegible]	[illegible]		[illegible]90					
University	[illegible]		[illegible]0	[illegible],[illegible]04	1,[illegible]84	12,[illegible]64		
Valley	[illegible]				1,[illegible]39			
[illegible]	[illegible]		[illegible]52					
Victoria	St. Clair to Lafond				1,513			
Virginia	Summit to Como	[illegible]	[illegible]19					
Van Buren	Western to Wheeler		1,185					
[illegible]	Lexington to Argyle		[illegible]22					
[illegible]	Summit to Park ave.	[illegible]37	[illegible]02					
Western	Summit to Como			1,[illegible]7[illegible]	1,[illegible]85			
Williams	Owen to Mississippi		[illegible]57					
[illegible]	[illegible]	[illegible]50						
Wilder	[illegible] to St. Anthony		[illegible]99					
[illegible]	Payne to Clark		2,[illegible]01					
Walker	Hewitt to Gt. Northern Ry	[illegible]07						
Wesley	Pascal to Fry	[illegible]94	421					
Workhouse	Extension east of Lexington		[illegible]97					
[illegible]	[illegible] to Eustis street			1,[illegible]12				
[illegible]	Lookout place to Cass		[illegible]94					
Wheeler ave.	University to Shields		[illegible]08					
Woodbridge	Atwater to Front		1,297					
[illegible]	[illegible] to Sylvan		1,142					
Wells	Edgerton to Greenbrier		1,244					
White Bear	[illegible] to Arne			1,292				
York	Forest to Cortland		5,73[illegible]					
Total		[illegible]0,646	476,575	108,923	86,215	36,166	15,477	1,560

High Service—

Total 4 inch pipe	80,645
Total 6 inch pipe	476,575
Total 12 inch pipe	108,923
Total 16 inch pipe	86,215
Total 20 inch pipe	36,166
Total 24 inch pipe	15,477
Total 30 inch pipe	1,560

781,961 feet or 142 miles 801 feet.

LIST OF HYDRANTS.

No.	Location.	Service.	Double or Single Steamer.	Size of Pipe.	Pressure at Hydrant.
1	Woodward and Monroe	Low	Single	4	40
2	Grove and Lafayette	Low	Single	6	42
3	Westminster and Waverly	Low	Single	6	38
4	Westminster 400 feet north of Waverly	Low	Single	6	39
5	Grove and Olive	Low	Single	6	40
6	John and Somerset	Low	Single	4	38
7	Olive and Somerset	Low	Single	4	38
8	Pine and Thirteenth	Low	Single	6	40
9	Thirteenth and Mississippi	Low	Single	6	39
10	Grove and Mississippi	Low	Single	20	40
11	Pine and Eleventh	Low	Single	4	41
12	Canada and Grove	Low	Single	6	37
13	Canada and Spruce	Low	Single	6	40
14	Grove in middle of block between Canada and Temperance	Low	Single	20	37
15	Jackson and Grove	Low	Single	6	32
16	Robert and Twelfth	Low	Single	6	30
17	Robert and Eleventh	Low	Single	6	29
18	Minnesota and Eleventh	Low	Single	6	29
19	Eleventh and Cedar	Low	Single	6	28
20	College and Wabasha	Low	Single	6	27
21	Wabasha and Tenth	Low	Single	6	29
22	St. Peter and Tenth	Low	Single	6	27
23	St. Peter and College	High	Single	6	79
24	St. Peter and Summit	High	Single	6	68
25	Tenth and College	Low	Single	6	21
26	Tenth between St. Peter and Fort	Low	Single	20	27
27	St. Peter and Exchange	Low	Single	6	31
28	Wabasha and Exchange	Low	Single	6	31
29	St. Peter and Ninth	Low	Single	6	33
30	Wabasha and Ninth	Low	Single	6	33
31	Ninth and Jackson, n. e. corner	Low	Single	6	38
32	Ninth and Sibley	Low	Single	6	41
33	Ninth and Canada	Low	Single	6	43
34	Ninth and Pine	Low	Single	6	46
35	Ninth and John	Low	Single	6	44
36	Ninth and Locust	Low	Single	6	45
37	Eighth and Neill	Low	Single	4	46
38	Fifth and Locust	Low	Single	6	57
39	Eighth and Olive	Low	Single	4	45
40	Broadway and Eighth	Low	Single	6	44
41	Eighth and Wacouta	Low	Single	4	44
42	Jackson and Eighth, n. e. corner	Low	Double	12	43
43	Robert and Eighth	Low	Single	6	43
44	Burr and Partridge	Low	Single	6	40
45	Burr and Hopkins	Low	Single	6	37
46	De Soto and Hopkins	Low	Single	6	38
47	Third and Smith avenue	Low	Single	6	31
48	Third and Pleasant	Low	Single	6	26
49	College and Third	High	Single	6	71
50	Exchange and Sherman	Low	Single	4	39
51	Walnut and Exchange	Low	Single	4	42
52	Sherman and Seventh	Low	Single	6	37
53	Seventh and Walnut, s. e. corner	Low	Double	20	41
54	Chestnut and Seventh, n. e. corner	Low	Single	6	38
55	Fort and Third, n. w. corner	Low	Single	20	34
56	Fourth and Seventh, s. e. corner	Low	Single	12	34
57	Seventh back of Winslow House	Low	Single	12	34
58	Seventh and Fifth	Low	Single	12	33
59	Seventh and Franklin	Low	Single	12	32
60	Seventh and Sixth	Low	Single	12	33
61	Seventh and St. Peter	Low	Single	12	34
62	Seventh and Wabasha, n. w. corner	Low	Single	16	35
63	Cedar and Seventh, n. w. corner	Low	Single	12	41
64	Seventh and Minnesota, n. w. corner	Low	Single	16	44
65	Seventh and Robert, n. w. corner	Low	Double	16	45
66	Jackson and Seventh, n. e. corner	Low	Double	12	45
67	Seventh and Sibley, n. w. corner	Low	Double	16	45
68	Seventh and Wacouta, n. e. corner	Low	Double	16	44
69	Seventh and Rosabel, n. w. corner	Low	Double	16	44

[illegible]

[illegible]	[illegible]		[illegible]	[illegible]	[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single		[illegible]
[illegible]	Low		Single	6	[illegible]
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	High		Single	[illegible]	[illegible]
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	6	37
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	4	[illegible]
[illegible]	Low		Single	6	62
[illegible]	Low		Single	4	32
[illegible]	Low		Single	6	39
[illegible]	Low		Single	[illegible]	[illegible]
[illegible]	Low		Single	6	55
[illegible]	Low		Single	6	[illegible]
[illegible]	Low		Single	6	33
[illegible]	Low		Single	6	51
[illegible]	Low		Single	6	65
[illegible]	Low		Single	6	56
[illegible]	Low		Single	6	46
[illegible]	Low		Single	6	40
[illegible]	Low		Single	6	30
[illegible]	Low		Single	6	[illegible]
[illegible]	Low		Single	6	74
[illegible]	Low		Single	6	34
[illegible]	Low		Single	6	31
[illegible]	Low		Single	6	36
[illegible]	Low		Single	6	65
[illegible]	Low		Single	12	35
[illegible]	Low		Single	6	48
[illegible]	Low		Single	6	52
[illegible]	Low		Single	4	58
[illegible]	Low		Single	4	50
[illegible]	Low		Single	6	[illegible]
[illegible]	Low		Single	6	[illegible]
[illegible]	Low		Single	6	[illegible]
[illegible]	Low		Single	12	40

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	Single	[illegible]	31
[illegible]	[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Low	Single	6	30
[illegible]	[illegible]	Low	Single	[illegible]	[illegible]
[illegible]	[illegible]	Low	Single	4	37
[illegible]	[illegible]	Low	Single	4	33
[illegible]	[illegible]	Low	Single	[illegible]	[illegible]
[illegible]	[illegible]	Low	Single	4	34
[illegible]	[illegible]	Low	Single	[illegible]	[illegible]
[illegible]	[illegible]	Low	Single	6	34
[illegible]	[illegible]	Low	Single	6	34
[illegible]	[illegible]	Low	Single	16	[illegible]
[illegible]	[illegible]	Low	Single	[illegible]	32
[illegible]	[illegible]	Low	Single	20	32
[illegible]	[illegible]	Low	Single	20	[illegible]
[illegible]	[illegible]	Low	Single	[illegible]	27
[illegible]	[illegible]	Low	Single	6	[illegible]
[illegible]	[illegible]	Low	Single	6	62
[illegible]	[illegible]	High	Single	6	32
[illegible]	[illegible]	High	Single	6	32
[illegible]	[illegible]	High	Single	6	30
[illegible]	[illegible]	High	Single	6	32
[illegible]	[illegible]	High	Single	6	29
[illegible]	[illegible]	High	Single	6	34
[illegible]	[illegible]	High	Single	6	34
[illegible]	[illegible]	High	Single	6	33
[illegible]	[illegible]	High	Single	6	29
[illegible]	[illegible]	High	Single	6	29
[illegible]	[illegible]	High	Single	6	31
[illegible]	[illegible]	High	Single	6	36
[illegible]	[illegible]	High	Single	6	34
[illegible]	[illegible]	High	Single	6	30
[illegible]	[illegible]	High	Single	4	29
[illegible]	[illegible]	High	Single	6	31
[illegible]	[illegible]	High	Single	6	27
[illegible]	[illegible]	High	Single	6	31

LIST OF HYDRANTS — *Continued.*

No.	Location.	Service.	Double or Single Stream.	Size of Pipe.	Pressure at Hydrant.
420	Dayton and Grotto	High	Single	6	33
421	Dayton and Avon	High	Single	6	33
422	Dayton and Pisk	High	Single	6	38
423	St. Peter and Aurora	High	Single	6	54
424	St. Peter and University	High	Single	6	58
425	Park and University	High	Single	6	52
426	Cedar and University	High	Single	6	45
427	Cedar and Sherburne	High	Single	6	35
428	Sherburne, 350 ft. e. of Cedar	High	Single	4	35
429	Hoffman and Seventh	High	Single	6	68
430	Fourth, 400 ft. w. of Maria	High	Single	6	70
431	Maria and Seventh	High	Single	6	69
432	Maria and Sixth	High	Single	6	69
433	Maria and Fifth	High	Single	6	67
434	Maria and Fourth	High	Single	6	69
435	Maria and Third	High	Single	6	70
436	Maria and Conway	High	Single	6	72
437	Maria and Ravine	High	Single	6	73
438	Maria and Euclid	High	Single	6	74
439	Maria and Hudson	High	Single	6	73
440	Bates and Plum	High	Single	12	65
441	Bates and Hudson	High	Single	12	62
442	Bates and Euclid	High	Single	12	62
443	Bates and Ravine	High	Single	12	59
444	Bates and Conway	High	Single	12	59
445	Bates and Third	High	Single	12	67
446	Bates and Fourth	High	Single	12	69
447	Bates and Fifth	High	Single	12	57
448	Bates and Sixth	High	Single	12	55
449	Bates and Seventh	High	Single	12	69
450	Fifth and Maple	High	Single	6	44
451	Third and Maple	High	Single	6	46
452	Hudson and Maple	High	Single	6	47
453	Valley and Canada	High	Single	16	75
454	Seventh and Maple	High	Single	16	46
455	Seventh and Hope, n. w. corner	High	Single	16	49
456	Seventh and Margaret	High	Single	16	42
457	Seventh and Beech	High	Single	16	48
458	Goodhue and Doneman	Low	Single	6	40
459	Goodhue and Cliff	Low	Single	6	30
460	Grace and Colborne	Low	Single	6	36
461	Colborne and Jefferson	Low	Single	6	38
462	Duke and Seventh	Low	Single	6	35
463	Seventh and Minnehaha, n. w. corner	High	Single	16	55
464	Seventh and Reaney	High	Single	16	52
465	Seventh and Forest	High	Single	16	52
466	Nash and L'Orient	Low	Single	6	37
467	Jessie and Fauquier	Low	Single	6	21
468	Seventh and Erie	Low	Single	16	36
469	Seventh and Fauquier	High	Single	16	56
470	Seventh and Cypress	High	Single	16	60
471	Seventh and Ross	High	Single	16	62
472	Seventh and Earl	High	Single	16	64
473	Ross and Earl	High	Single	6	59
474	Edmund and Marion	High	Single	6	56
475	Fauquier and Cypress	High	Single	6	57
476	Fauquier and Earl	High	Single	6	56
477	Fauquier and Payne	Low	Single	12	10
478	Fauquier and Edgerton	Low	Single	12	19
479	Fauquier and Bradley	Low	Single	12	22
480	De Soto and Fauquier	Low	Single	12	24
481	De Soto and Minnehaha	Low	Single	12	13
482	Fifth, 350 ft. w. of Maria	High	Single	6	73
483	Fauquier and Forest	High	Single	6	55
484	Fauquier and Mendota	High	Single	6	63
485	Fauquier and Arcade	High	Single	6	61
486	Lincoln between Oakland and Dale	High	Single	6	39
487	Lincoln and Dale	High	Single	6	36
488	Hoffman and Sixth	High	Single	6	88
489	Mendota and Reaney	High	Single	6	59

LIST OF HYDRANTS—*Continued.*

No.	Location.	Service.	Double or Single Stream.	Size of Pipe.	Distance from Main to Hydrant.
580	Rice and Lafond	High	Single	12	55
581	Rice and Arch	High	Single	12	56
582	Rice and Pennsylvania	High	Single	12	57
583	Rondo and Ravenx	High	Single	6	68
584	Rondo and Summit place	High	Single	6	62
585	Williams and Olive	High	Single	6	79
586	Olive and Pennsylvania	High	Single	6	55
587	Rondo and Lewis	High	Single	6	60
588	Rondo and Farrington	High	Single	6	58
589	Ninth and Smith avenue	Low	Single	6	23
590	Franklin and Sixth	Low	Single	4	38
591	Rondo and Virginia	High	Single	6	57
592	Mendota and Beech	High	Single	12	54
593	Kittson and Fourth	Low	Single	6	60
594	Valley and Warren	High	Single	16	51
595	Robert and Valley	High	Single	6	59
596	Mendota and Dawson	High	Single	12	44
597	Mendota and Frances	High	Single	12	40
598	Mendota and East Fourth	High	Single	12	40
599	Mt. Airy and Broadway	High	Single	6	56
580	Fourth and Neil	Low	Single	12	67
581	Fourth and Willius	Low	Single	12	65
582	Fourth and Lamar	Low	Single	12	45
583	Mendota and Fremont	High	Single	12	50
584	Mendota and Conway	High	Single	12	33
585	Euclid and Forest	High	Single	6	57
586	Euclid and Mendota	High	Single	6	55
587	Third and Cypress	High	Single	6	47
588	Third and Forest	High	Single	6	50
589	Third and Mendota	High	Single	6	52
590	Third and Arcade	High	Single	6	44
591	Hudson and Mendota	High	Single	12	40
592	Mt. Airy and Linden	High	Single	6	40
593	Mt. Airy and Warren	High	Single	6	38
594	Maple and Euclid	High	Single	6	48
595	Mt. Airy and Robert	High	Single	6	57
596	Webster and Palace	Low	Single	6	34
597	Maple and Ravine	High	Single	6	59
598	Fourth and Broadway, n. e. corner	Low	Single	12	61
599	Maple and Conway	High	Single	6	49
600	Viola and Brewster	High	Single	6	38
601	Maple and Fourth	High	Single	6	41
602	Viola and Park	High	Single	6	56
603	Maple and Sixth	High	Single	6	50
604	Margaret and Arcade	High	Single	6	41
605	Margaret and Mendota	High	Single	6	52
606	Sherburne and Marion	High	Single	6	58
607	Granite and Cortland	High	Single	6	60
608	Granite and Agate	High	Single	6	63
609	Granite and Beaver	High	Single	6	74
610	Margaret and Forest	High	Single	6	49
611	Sherburne and Gaultier	High	Single	6	58
612	Sherburne and Farrington	High	Single	6	57
613	Sherburne and Virginia	High	Single	6	57
614	Margaret and Cypress	High	Single	6	46
615	Margaret and Earl	High	Single	6	62
616	Mississippi and Case	Low	Single	6	30
617	Mississippi and Jenks	Low	Single	6	28
618	Mississippi and Lawson	Low	Single	6	27
619	Mississippi and Cook	Low	Single	6	24
620	Mississippi and Magnolia	Low	Single	6	20
621	Mississippi and Jessamine	Low	Single	6	20
622	Robert and Thirteenth	Low	Single	6	29
623	Capitol and Buffalo	High	Single	6	64
624	Capitol and Elk	High	Single	6	67
625	Capitol and Cortland	High	Single	6	68
626	University and Mackubin	High	Single	12	51
627	University and Kent	High	Single	12	48
628	University and Dale	High	Single	12	45
629	Central avenue, north of Central Park	High	Single	6	73

[illegible]

LIST OF HYDRANTS—*Continued.*

No.	Location.	Service.	Double or Single Steamer.	Size of Pipe.	Pressure at Hydrant.
700	Fourth and Arcade	High	Single	6	44
701	Western and Milwaukee Short Line	Low	Single	6	41
702	Goodrich, 750 ft. east of Dale	High	Single	6	37
703	Dale and Goodrich	High	Single	12	37
704	Goodrich and Richmond	Low	Single	6	33
705	Ninth and Olive	Low	Single	6	45
706	Ninth and Neill	Low	Single	4	43
707	Sixth and Hope	High	Single	6	49
708	Martin and Kent	High	Single	6	44
709	Jackson and Valley	High	Single	6	48
710	Martin and Mackubin	High	Single	6	40
711	Greenbrier and North	High	Single	12	53
712	Greenbrier and Maury	High	Single	12	49
713	Sherborne and Park	High	Single	6	51
714	Third and Jackson, n. w. corner	Low	Double	6	53
715	St. Anthony and Dale	High	Single	6	30
716	St. Anthony and Kent	High	Single	6	39
717	Arcade and Minnehaha	High	Single	12	53
718	St. Anthony and Mackubin	High	Single	6	44
719	St. Anthony and Arundel	High	Single	6	46
720	St. Anthony and Virginia	High	Single	6	53
721	St. Anthony and Farrington	High	Single	6	57
722	Wabasha and Park	High	Single	4	59
723	St. Anthony and Jay	High	Single	6	61
724	St. Anthony and Louis	High	Single	6	60
725	St. Anthony and Ravoux	High	Single	6	61
726	Sherburne and Brewster	High	Single	6	42
727	Brewster and University	High	Single	6	48
728	Harrison and Western	Low	Single	6	33
729	Martin and Virginia	High	Single	6	54
730	Martin and Farrington	High	Single	6	57
731	Pennsylvania and L'Orient	Low	Single	6	33
732	Martin and Jay	High	Single	6	59
733	Martin and Louis	High	Single	6	59
734	Glencoe and L'Orient	Low	Single	6	31
735	Glencoe and Columbia	Low	Single	6	27
736	Arcade and Wells	High	Single	12	56
737	Arcade and York	High	Single	12	50
738	Arcade and Sims	High	Single	12	46
739	Arcade and Case	High	Single	12	48
740	Arcade and Jenks	High	Single	12	46
741	Arcade and Lawson	High	Single	12	45
742	Arcade and Cook	High	Single	12	42
743	Arcade and Magnolia	High	Single	12	43
744	Arcade, in front of Bohn Mfg. Co	High	Single	12	60
745	Fauquier and Weide	High	Single	6	58
746	Rosney and Weide	High	Single	6	62
747	Rosney and Arcade	High	Single	6	56
748	Edmund and Gaultier	High	Single	6	57
749	Edmund and Eifelt	High	Single	6	56
750	Edmund and Farrington	High	Single	6	55
751	Edmund and Virginia	High	Single	6	55
752	Edmund and Western	High	Single	6	56
753	Como and Thomas	High	Single	20	56
754	Como and Claghorn	High	Single	20	58
755	Como and Lafond	High	Single	20	59
756	Como and Gaultier	High	Single	20	61
757	Aurora and Marion	High	Single	6	59
758	Aurora and Jay	High	Single	6	57
759	Aurora and Farrington	High	Single	6	59
760	Preble and Minnehaha	Low	Single	6	20
761	Payne and Beaumont	Low	Single	6	27
762	Thomas and Arundel	High	Single	6	58
763	Thomas and Mackubin	High	Single	6	57
764	Conway and Arcade	High	Single	6	49
765	Conway and Forest	High	Single	6	51
766	Thomas and Kent	High	Single	6	52
767	Thomas and Dale	High	Single	6	47
768	Frances and Arcade	High	Single	6	45
769	River and Maria	High	Single	4	68

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

LIST OF HYDRANTS—Continued.

Location	Service	Double or Single Teamer	Year of Type	[illegible]	[illegible]
[illegible]	High	Single	[illegible]		46
[illegible]	High	Single	[illegible]		42
[illegible]	High	Single	[illegible]		42
[illegible]	High	Single	[illegible]		46
[illegible]	High	Single	[illegible]		46
[illegible]	High	Single	[illegible]		44
[illegible]	High	Single	[illegible]		41
[illegible]	High	Single	[illegible]	12	39
[illegible]	High	Single	[illegible]	12	37
[illegible]	High	Single	[illegible]		42
[illegible]	High	Single	[illegible]	12	37
[illegible]	High	Single	[illegible]	12	36
[illegible]	High	Single	[illegible]	12	36
[illegible]	High	Single	[illegible]	12	39
[illegible]	High	Single	[illegible]	12	39
[illegible]	High	Single	[illegible]	1	46
[illegible]	High	Single	[illegible]	1	45
[illegible]	High	Single	[illegible]	1	49
[illegible]	High	Single	[illegible]	1	48
[illegible]	High	Single	[illegible]	1	55
[illegible]	High	Single	[illegible]	1	39
[illegible]	High	Single	[illegible]	1	47
[illegible]	High	Single	[illegible]	1	48
[illegible]	High	Single	[illegible]	1	48
[illegible]	High	Single	[illegible]	1	48
[illegible]	High	Single	[illegible]	1	71
[illegible]	High	Single	[illegible]	1	54
[illegible]	High	Single	[illegible]	1	54
[illegible]	High	Single	[illegible]	1	42
[illegible]	High	Single	[illegible]	1	45
[illegible]	High	Single	[illegible]	1	53
[illegible]	High	Single	[illegible]	1	42
[illegible]	High	Single	[illegible]	1	75
[illegible]	High	Single	[illegible]	1	42
[illegible]	High	Single	[illegible]	1	48
[illegible]	High	Single	[illegible]	1	49
[illegible]	High	Single	[illegible]	1	44
[illegible]	Low	Single	[illegible]	1	33
[illegible]	High	Single	[illegible]	1	35
[illegible]	High	Single	[illegible]	1	41
[illegible]	High	Single	[illegible]	1	33
[illegible]	High	Single	[illegible]	1	40
[illegible]	High	Single	[illegible]	20	48
[illegible]	High	Single	[illegible]	20	47
[illegible]	High	Single	[illegible]	20	47
[illegible]	High	Single	[illegible]	20	46
[illegible]	High	Single	[illegible]	1	53
[illegible]	High	Single	[illegible]	1	57
[illegible]	High	Single	[illegible]	1	64
[illegible]	High	Single	[illegible]	1	51
[illegible]	High	Single	[illegible]	1	56
[illegible]	High	Single	[illegible]	20	47
[illegible]	High	Single	[illegible]	20	57
[illegible]	High	Single	[illegible]	20	50
[illegible]	High	Single	[illegible]	20	45
[illegible]	High	Single	[illegible]	1	59
[illegible]	Low	Single	[illegible]	1	34
[illegible]	Low	Single	[illegible]	1	32
[illegible]	Low	Single	[illegible]	1	32
[illegible]	Low	Double	[illegible]	12	68
[illegible]	Low	Double	[illegible]	12	69
[illegible]	Low	Double	[illegible]	12	69
[illegible]	High	Single	[illegible]	1	31
[illegible]	High	Single	[illegible]	1	34
[illegible]	Low	Double	[illegible]	12	67
[illegible]	Low	Double	[illegible]	12	64

[illegible]

LIST OF HYDRANTS—*Continued.*

No.	Location.	Service.	Double or Single Stream.	Size of Pipe.	Pressure at Hydrant.
1120	Wilder and Rondo	High	Single	6	37
1121	Fauquier and Frank	High	Single	6	63
1122	Plum and Hoffman	High	Single	6	76
1123	Fremont and Forest	High	Single	6	47
1124	Prior and University, s. e. corner	High	Single	12	40
1125	Prior and Feronia	High	Single	12	42
1126	Sibley and Fourth, s. w. corner	Low	Double	6	54
1127	Prior and Marshall	High	Single	12	39
1128	Chicago and Starkey	Low	Single	6	69
1129	Chicago and Custer	Low	Single	6	69
1130	Emma and Railroad	Low	Single	4	40
1131	Robie and Brown	Low	Single	6	57
1132	Rondo and Kent	High	Single	6	35
1133	Short and Maria	High	Single	6	72
1134	Ravine 325 feet west of Maria	High	Single	4	63
1135	Cedar and Fourth, s. e. corner	Low	Double	12	38
1136	Wabasha and Fourth, n. e. corner	Low	Double	6	32
1137	Third and Exchange, south side	Low	Double	12	35
1138	Third and Franklin, south side	Low	Double	12	34
1139	Third and Washington, south side	Low	Double	12	34
1140	Third and Market, south side	Low	Double	12	33
1141	Third and St. Peter, south side	Low	Double	12	33
1142	Cedar and Third, s. e. corner	Low	Double	12	33
1143	Wabasha and Third, s. w. corner	Low	Double	12	34
1144	Lafond and Claghorn	High	Single	6	58
1145	Claghorn and Lake	High	Single	6	57
1146	Claghorn and Van Buren	High	Single	6	60
1147	George and Livingston	Low	Single	12	20
1148	George and Gorman	Low	Single	12	22
1149	George and Goff	Low	Single	12	23
1150	George and Hall	Low	Single	12	17
1151	George and Stryker	Low	Single	12	15
1152	Stryker and Robie	Low	Single	6	22
1153	Stryker and Winifred	Low	Single	6	26
1154	Stryker and Congress	Low	Single	6	22
1155	Stryker and Delos	Low	Single	6	21
1156	Stryker and Colorado	Low	Single	6	20
1157	Stryker and Prospect terrace	Low	Single	6	21
1158	Ellen and St. Albans	High	Single	6	46
1159	Seventh and John, s. e. corner	Low	Double	16	45
1160	Seventh and Olive, s. e. corner	Low	Double	16	43
1161	Seventh and Pine, s. e. corner	Low	Double	16	43
1162	Seventh and Broadway, n. e. corner	Low	Double	16	44
1163	Seventh and Rosabel, n. e. corner	Low	Double	16	44
1164	Seventh and Sibley, n. e. corner	Low	Double	16	45
1165	Wacouta and Seventh, s. e. corner	Low	Double	12	44
1166	Locust and Seventh, n. e. corner	Low	Double	20	46
1167	Charles and Grotto	High	Single	6	49
1168	Charles and Avon	High	Single	6	46
1169	Aurora and St. Albans	High	Single	6	46
1170	Rondo and St. Albans	High	Single	6	33
1171	Rondo and Grotto	High	Single	6	38
1172	Rondo and Avon	High	Single	6	43
1173	Rondo and Fisk	High	Single	6	45
1174	Rondo and Victoria	High	Single	6	46
1175	Indiana and Wabasha, n. w. corner	Low	Single	12	69
1176	Indiana and Edward	Low	Single	12	69
1177	Indiana and Water	Low	Single	12	69
1178	Indiana and Hyde	Low	Single	12	69
1179	Indiana and Moses	Low	Single	12	69
1180	Indiana and Daniel	Low	Single	12	68
1181	Indiana and Ethel	Low	Single	12	63
1182	Holly and Victoria	High	Single	6	31
1183	St. Anthony and St. Albans	High	Single	6	33
1184	George and S. Robert	Low	Single	12	25
1185	George and Maurice	Low	Single	12	28
1186	State and George	Low	Single	16	48
1187	State and Dearborn	Low	Single	16	49
1188	State and Oakdale	Low	Single	16	40
1189	Oakdale and Prescott	Low	Single	16	28

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	High	Single	20	40
[illegible]	High	Single	[illegible]	40
[illegible]	High	Single	20	40
[illegible]	High	Single	20	40
[illegible]	High	Single	20	42
[illegible]	High	Single	20	46
[illegible]	High	Single	20	46
[illegible]	High	Single	30	46
[illegible]	High	Single	20	42
[illegible]	High	Single	6	56
[illegible]	High	Single	[illegible]	72
[illegible]	High	Single	16	42
[illegible]	High	Single	16	38
[illegible]	High	Single	16	34
[illegible]	High	Single	6	42
[illegible]	High	Single	6	38
[illegible]	High	Single	6	42
[illegible]	High	Single	6	43
[illegible]	High	Single	6	38
[illegible]	High	Single	12	42
[illegible]	High	Single	12	35
[illegible]	High	Single	12	34
[illegible]	High	Single	6	40
[illegible]	High	Single	6	46
[illegible]	High	Single	6	41
[illegible]	High	Single	16	41
[illegible]	High	Single	16	41
[illegible]	High	Single	6	43
[illegible]	High	Single	6	41
[illegible]	High	Single	6	42
[illegible]	High	Single	6	39
[illegible]	High	Single	6	42
[illegible]	High	Single	6	78
[illegible]	High	Single	6	60
[illegible]	High	Single	6	64

[illegible] HYDRANTS—[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	High	Single	[illegible]	12
[illegible]	[illegible]	High	Single	[illegible]	12
[illegible]	[illegible]	High	Single	[illegible]	13
[illegible]	[illegible]	High	Single	[illegible]	11
[illegible]	[illegible] north of [illegible]	High	Single	[illegible]	14
[illegible]	[illegible]	Low	Single	[illegible]	2
[illegible]	[illegible]	High	Single	[illegible]	12
[illegible]	[illegible]	High	Single	[illegible]	10
[illegible]	[illegible]	High	Single	[illegible]	5
[illegible]	[illegible]	High	Single	[illegible]	15
[illegible]	[illegible]	High	Single	[illegible]	11
[illegible]	[illegible]	High	Single	[illegible]	19
[illegible]	[illegible]	High	Single	[illegible]	12
[illegible]	[illegible]	High	Single	[illegible]	11
[illegible]	[illegible]	High	Single	[illegible]	12
[illegible]	[illegible]	High	Single	[illegible]	5
[illegible]	[illegible]	High	Single	[illegible]	10
[illegible]	[illegible]	Low	Single	[illegible]	10
[illegible]	[illegible]	High	Single	[illegible]	14
[illegible]	[illegible]	High	Single	[illegible]	15
[illegible]	[illegible]	High	Single	[illegible]	46
[illegible]	[illegible]	High	Single	[illegible]	46
[illegible]	[illegible]	High	Single	[illegible]	10
[illegible]	[illegible]	High	Single	[illegible]	10
[illegible]	[illegible]	High	Single	[illegible]	41
[illegible]	[illegible]	High	Single	[illegible]	41
[illegible]	[illegible]	High	Single	[illegible]	44
[illegible]	[illegible]	High	Single	[illegible]	42
[illegible]	[illegible]	High	Single	[illegible]	10
[illegible]	[illegible]	High	Single	[illegible]	41
[illegible]	[illegible]	High	Single	[illegible]	43
[illegible]	[illegible]	High	Single	[illegible]	40
[illegible]	[illegible]	High	Single	[illegible]	43
[illegible]	[illegible]	High	Single	[illegible]	45
[illegible]	[illegible]	High	Single	[illegible]	44
[illegible]	[illegible]	High	Single	[illegible]	44
[illegible]	[illegible]	High	Single	[illegible]	36
[illegible]	[illegible]	High	Single	[illegible]	36
[illegible]	[illegible]	High	Single	[illegible]	36
[illegible]	[illegible]	High	Single	[illegible]	35
[illegible]	[illegible]	High	Single	[illegible]	35
[illegible]	[illegible]	High	Single	[illegible]	35
[illegible]	[illegible]	High	Single	[illegible]	46
[illegible]	[illegible]	High	Single	[illegible]	30
[illegible]	[illegible]	Low	Single	[illegible]	29
[illegible]	[illegible]	High	Single	[illegible]	45
[illegible]	[illegible]	High	Single	[illegible]	35
[illegible]	[illegible]	High	Single	[illegible]	37
[illegible]	[illegible]	High	Single	[illegible]	36
[illegible]	[illegible]	High	Single	[illegible]	37
[illegible]	[illegible]	Low	Single	[illegible]	30
[illegible]	[illegible]	High	Single	[illegible]	23
[illegible]	[illegible]	Low	Single	[illegible]	31
[illegible]	[illegible]	Low	Single	[illegible]	32
[illegible]	[illegible]	High	Single	[illegible]	31
[illegible]	[illegible]	Low	Single	[illegible]	27
[illegible]	[illegible]	High	Single	[illegible]	30
[illegible]	[illegible]	Low	Single	[illegible]	18
[illegible]	[illegible]	Low	Single	[illegible]	21
[illegible]	[illegible]	Low	Single	[illegible]	23
[illegible]	[illegible]	Low	Single	[illegible]	35
[illegible]	[illegible]	Low	Single	[illegible]	22
[illegible]	[illegible]	Low	Single	[illegible]	22
[illegible]	[illegible]	Low	Single	[illegible]	24
[illegible]	[illegible] Park place East and Gordon	High	Single	[illegible]	41
[illegible]	[illegible] Park place East	High	Single	[illegible]	42
[illegible]	[illegible] Park place West	High	Single	[illegible]	42
[illegible]	[illegible] avenue	High	Single	[illegible]	33
[illegible]	[illegible]	Low	Single	[illegible]	18
[illegible]	[illegible]	Low	Single	[illegible]	32
[illegible]	[illegible]	Low	Single	[illegible]	23

[illegible]

[illegible]NT OF HYDRANTS—Continued.

	Location	Service	Single or Double Header	Size of Pipe	[illegible]
1[illegible]	N. Clark and Oxford	High	Single	12	[illegible]
1[illegible]	Jamestown and Walsh	High	Single		45
1[illegible]	Charles and Paterson	High	Single		40
1[illegible]	Charles 100 feet west of Paterson	High	Single		[illegible]
1[illegible]	Wheeler and Victoria	High	Single		36
1[illegible]	Jamestown and Dorr	High	Single		42
1[illegible]	Sayre and Wheeler	High	Single	4	35
1[illegible]	Jamestown and DeSoto	High	Single		46
1[illegible]	Jamestown and Clark	High	Single		50
1[illegible]	Jamestown and Arbordale	High	Single		46
1[illegible]	Cortland and Victoria	High	Single		32
1[illegible]	Jamestown and Woodland	High	Single		44
1[illegible]	Jamestown and McMenomy	High	Single		51
1[illegible]	Jamestown 50 feet east of Woodward	High	Single		70
1[illegible]	Territorial road and Dove place	High	Single		45
1[illegible]	Territorial road and Commonwealth	High	Single		44
1[illegible]	Territorial road and Castle	High	Single		40
1[illegible]	Hague avenue and Milford	High	Single		35
1[illegible]	Hague avenue and Chatsworth	High	Single		31
1[illegible]	Hague avenue and Oxford	High	Single		32
1[illegible]	Hague avenue and Lexington	High	Single		35
1[illegible]	Mulberry and Stark	High	Single	4	42
1[illegible]	Payne and Maryland	High	Single		33
1[illegible]	Payne and Hawthorne	High	Single		40
1[illegible]	Payne and Orange	High	Single		39
1[illegible]	Payne and Hyacinth	High	Single		38
1[illegible]	Payne and Ivy	High	Single		35
1[illegible]	Monroe and N. P. Ry	High	Single		35
1[illegible]	De Soto and Jackson	High	Single		51
1[illegible]	De Soto and Lawton	High	Single		40
1[illegible]	Charles and Arundel	High	Single		37
1[illegible]	Virginia and Stark	High	Single	4	58
1[illegible]	Virginia and Minnehaha	High	Single	4	57
1[illegible]	Capitol and Fry	High	Single		29
1[illegible]	Capitol and Aldine	High	Single		25
1[illegible]	Capitol and Wheeler	High	Single		30
1[illegible]	Arch and Fairview	High	Single		52
1[illegible]	Arch and Warren	High	Single		36
1[illegible]	Arch and St. Vincent	High	Single		40
1[illegible]	Arch, 90 feet east of Linden	High	Single		71
1[illegible]	Arch, 100 feet east of Columbia	High	Single		34
1[illegible]	Gauthier and Topping	High	Single		62
1[illegible]	Gauthier and Burgess	High	Single		62
1[illegible]	Gauthier and Stinson	High	Single		56
1[illegible]	Gauthier and Hatch	High	Single		40
1[illegible]	Gauthier and Lawson	High	Single		44
1[illegible]	Gauthier and Cook	High	Single		46
1[illegible]	Stinson and Farrington	High	Single		52
1[illegible]	Minnehaha and Duluth Ry	High	Single	12	78
1[illegible]	Minnehaha and Greenleaf	High	Single	12	77
1[illegible]	Minnehaha and Walsh	High	Single	12	67
1[illegible]	Minnehaha and Webb	High	Single	12	59
1[illegible]	Woodbridge and Atwater	High	Single	6	63
1[illegible]	Woodbridge and Milford	High	Single	6	62
1[illegible]	Woodbridge and Waverly	High	Single	6	61
1[illegible]	Milford and Cleghorn	High	Single	6	62
1[illegible]	Milford and Allemania	High	Single	6	62
1[illegible]	Rosney and Duluth	High	Single	6	62
1[illegible]	Rosney and Atlantic	High	Single	6	60
1[illegible]	Rosney and English	High	Single	6	53
1[illegible]	Rice and G. N. Ry	High	Single	12	56
1[illegible]	Rice and Capitol	High	Single	12	59
1[illegible]	Fauquier and Duluth	High	Single	6	63
1[illegible]	Milford and Rice	High	Single	6	62
1[illegible]	Atlantic and Fauquier	High	Single	6	61
1[illegible]	Fauquier 300 feet east of Atlantic	High	Single	6	57
1[illegible]	Cleveland and Myrtle	High	Single	16	39
1[illegible]	Cleveland and Wabash	High	Single	16	38
1[illegible]	Cleveland 300 feet north of Milwaukee Ry	High	Single	16	40
1[illegible]	Cleveland and Milwaukee Ry	High	Single	16	39

[illegible]

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Trainer.	Size of Pipe.	Distance from Ground to Center of Hydrant.
1690	Marshall and Fairview	High	Single	12	58
1691	Marshall and Wheeler	High	Single	12	59
1692	Clay and Jesse	Low	Single	6	42
1693	Winnebago and Hamilton	High	Single	12	55
1694	Hall and Bebb	Low	Single	6	38
1695	Cortland and Case	High	Single	16	54
1696	Cortland and Jenks	High	Single	16	55
1697	Cortland and Lawton	High	Single	16	54
1698	Cortland and Cook	High	Single	16	54
1699	Cortland and Magnolia	High	Single	16	53
1700	Cortland and Lemoinne	High	Single	16	52
1701	Cortland and Geneseo	High	Single	16	51
1702	Cortland and Rose	High	Single	16	52
1703	Cortland and Maryland	High	Single	16	54
1704	Congress and Gulf	Low	Single	6	40
1705	Agate and York	High	Single	6	39
1706	Agate and Elk	High	Single	6	42
1707	Agate 250 feet south of Granite	High	Single	6	72
1708	Pleasant and St. Albans	High	Single	12	46
1709	Hoffman and Hudson	High	Single	6	78
1710	St. Albans 200 feet south of Fairmount	High	Single	12	51
1711	Winifred and Winslow	Low	Single	6	25
1712	Winifred and Bidwell	Low	Single	6	21
1713	Winifred and Bellows	Low	Single	6	21
1714	Wasonia between Third and Fourth	Low	Double	6	62
1715	Fourth and Sibley, n. e. corner	Low	Double	6	55
1716	Sibley and Union Depot	Low	Single	4	70
1717	Evergreen and Victoria	High	Single	6	36
1718	Evergreen and Milton	High	Single	6	47
1719	Sherbourne and Milton	High	Single	6	49
1720	Sherbourne and Chatsworth	High	Single	6	51
1721	Sixth between Sibley and Wasonia	Low	Single	4	48
1722	Dearborn and Lexington	Low	Single	6	39
1723	Charles and Milton	High	Single	6	38
1724	Charles and Victoria	High	Single	6	49
1725	Fifth and Broadway, n. e. corner	Low	Double	6	57
1726	Fifth and Pine	Low	Single	6	55
1727	Fifth and Olive	Low	Single	6	56
1728	Edmond and Avon	High	Single	6	52
1729	Edmond and Victoria	High	Single	6	50
1730	Edmond and Milton	High	Single	6	48
1731	Woodward and John	Low	Single	4	40
1732	Grand avenue and Lexington	High	Single	6	40
1733	Leslie and Milton	High	Single	6	36
1734	Leslie and Chatsworth	High	Single	6	31
1735	Thomas and Victoria	High	Single	6	51
1736	Thomas and Milton	High	Single	6	50
1737	Thomas and Chatsworth	High	Single	6	52
1738	Thomas and St. Albans	High	Single	6	50
1739	Thomas and Grotto	High	Single	6	51
1740	Enfond and Avon	High	Single	6	48
1741	Enfond and Victoria	High	Single	6	50
1742	Randolph and Webster	Low	Single	6	42
1743	Yankee and Ann	Low	Single	4	40
1744	Van Buren and Victoria	High	Single	6	42
1745	Van Buren and Avon	High	Single	6	48
1746	Van Buren and Grotto	High	Single	6	53
1747	Van Buren and St. Albans	High	Single	6	55
1748	Van Buren and Kent	High	Single	6	57
1749	Van Buren and Mackalin	High	Single	6	58
1750	Congress and Winslow	Low	Single	6	24
1751	Congress and Bidwell	Low	Single	6	24
1752	Congress and Bellows	Low	Single	6	21
1753	Congress and Charlton	Low	Single	6	19
1754	Feed in rear of Lincoln School	Low	Single	4	19
1755	View and Watson	Low	Single	6	33
1756	Watson and Victoria	Low	Single	6	29
1757	Watson and Milton	Low	Single	6	28
1758	Watson and Chatsworth	Low	Single	6	27
1759	Wabasha head of Eighth	Low	Double	6	33

[illegible] REPORT [illegible] COMMISSIONERS

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single		[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	High	Single		[illegible]
[illegible]	Low	Single	[illegible]	[illegible]
[illegible]	High	Single	[illegible]	[illegible]
[illegible]	High	Single	[illegible]	[illegible]
[illegible]	High	Single	[illegible]	[illegible]
[illegible]	High	Single	[illegible]	[illegible]
[illegible] corner	Low	Double	[illegible]	46
[illegible] corner	Low	Double	[illegible]	46
[illegible] corner	Low	Double	[illegible]	44
[illegible] corner	Low	Double	[illegible]	44
[illegible]	High	Single	12	15
[illegible]	High	Single	12	39
[illegible]	High	Single	12	48
[illegible]	High	Single	16	57
[illegible]	High	Single	16	50
[illegible]	High	Single	16	48
[illegible]	High	Single	16	40
[illegible]	High	Single	16	39
[illegible]	High	Single	16	37
[illegible] corner	Low	Double	12	42
[illegible] corner	Low	Double	12	42
[illegible]	High	Single	16	50
[illegible]	High	Single	6	63
[illegible]	High	Single	6	62
[illegible]	High	Single	6	61
[illegible]	Low	Single	16	36
[illegible]	Low	Single	16	28
[illegible]	Low	Single	16	20
[illegible] eleventh	Low	Single	6	52
[illegible]	Low	Single	6	19
[illegible]	High	Single	12	24
[illegible]	High	Single	12	21
[illegible]	High	Single	12	23
[illegible]	High	Single	6	23
[illegible]	High	Single	6	30
[illegible]	High	Single	6	25
[illegible]	High	Single	6	26
[illegible]	High	Single	6	72
[illegible]	High	Single	6	55
[illegible]	High	Single	6	42
[illegible]	High	Single	16	50
[illegible]	High	Single	16	10
[illegible]	High	Single	12	20

[illegible]

LIST OF HYDRANTS — *Continued.*

No.	Location.	Service.	Double or Single Stream.	Size of Pipe.	
1959	Cherokee and Winona	High	Single	6	11
1960	Cherokee and Annapolis	High	Single	[illegible]	13
1961	Sidney and Ottawa	High	Single	6	12
1962	Hazel and Ames	High	Single	12	12
1963	Hazel 300 feet north of Ames	High	Single	12	13
1964	Cherokee and South avenue	High	Single	6	57
1965	Cherokee and Ottawa	High	Single	6	20
1966	Cherokee and Stevens	High	Single	6	71
1967	Cherokee and King	High	Single	6	47
1968	Manchester and Grand	High	Single	6	28

Number of fire hydrants placed this year on low service	24
Number of fire hydrants placed this year on high service	60
Number of fire hydrants placed this year on West Side high service	71
Total number placed this year	155
Total number placed to date on low service	997
Total number placed to date on high service	1,200
Total number placed to date on West Side high service	71
Grand total	1,868

Of which 7 on low and 1 on high service are double streamers.

Only two of the old Holly hydrants remain in use; the balance are Mathews.

[illegible]

LIST OF STREET SPRINKLING HYDRANTS—Continued.

No.	Location	Measurement of Valve from Hydrant	Name of Hydrant
[illegible]	[illegible]	9 ft.	Stand pipe.
[illegible]	[illegible]	5 ft.	Stand pipe.
[illegible]	[illegible]	9 ft.	Stand pipe.
[illegible]	[illegible]	9 ft.	Stand pipe.
[illegible]	[illegible]	6 ft.	Stand pipe.
[illegible]	[illegible]	6 ft.	Stand pipe.
[illegible]	[illegible]	20 ft.	Stand pipe.
[illegible]	[illegible]	20 ft.	Stand pipe.
[illegible]	[illegible]	9 ft.	Stand pipe.
[illegible]	[illegible]	10 ft.	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	9 ft.	Stand pipe.
[illegible]	[illegible]	9 ft.	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	23 ft.	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	6 ft.	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.
[illegible]	[illegible]	[illegible]	Stand pipe.

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

LOCATION OF VALVES (LOW SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
De Soto	South line of Collins			1						
Douglas	North and south line of Seventh			2						
Douglas	South line of Lisbon			1						
Duke	South line of Seventh			1						
Duke	South line of Jefferson			1						
Dousman	South line of Goodhue			1						
Dousman	North line of Von Minden			1						
Delos	West line of Clinton			1						
Delos	East line of Livingston			1						
Delos	East and west line of Starkey			2						
Delos	East line of Stryker			1						
Daly	North line of James			1						
Dearborn	East line of Livingston			1						
Eagle	North line of Washington			1						
Eagle	South line of Exchange			1						
Eagle	South line of Seventh			1						
Eighth	112 feet east of Neill B. O.	1								
Eighth	East and west line of Locust		2							
Eighth	East and west line of Broadway		4							
Eighth	West line of Sibley		1							
Eighth	East and west line of Jackson		2							
Eighth	East line of Minnesota		1							
Eighth	East and west line of Cedar		2							
Eighth	East line of Wabasha		1							
Eleventh	East line of Broadway		2							
Eleventh	West line of Jackson			1						
Eleventh	West line of Robert			1						
Eleventh	East line of Cedar			1						
Elm	East line of Exchange		1							
Exchange	East and west line of St. Peter		2							
Exchange	South line of Ninth		1							
Exchange	North line of Seventh		1							
Exchange	North and south line of Third		2							
Exchange	South line of Eagle		1							
Exchange	South line of Chestnut		1							
Exchange	North line of Sherman		1							
Exchange	Centre of Wilkin		1							
Edgerton	North line of Minnehaha			1						
Erie	North line of Seventh			1						
Fairfield	West line of State			1						
Fairfield	East line of Eva			1						
Fairfield	West line of Eaton			1						
Fairfield	West line of Hubert			1						
Fairfield	East and west line of Starkey			2						
Fairfield	West line of Dakota			1						
Fauquier	East line of De Soto				1					
Fifth	West line of Neill			1						
Fifth	West line of Willius			1						
Fifth	East line of John			1						
Fifth	West line of Olive			1						
Fifth	East and west line of Broadway		1	1						
Fifth	West line of Rosabel		1							
Fifth	East line of Sibley		1							
Fifth	East and west line of Jackson		2							
Fifth	East line of Minnesota		1							
Fifth	East and west line of Cedar		2							
Fifth	East and west line of Wabasha		1	1						
Fifth	West line of St. Peter		1							
Fifth	West line of Washington		1							
Fifth	East line of Seventh		1							
Fifth	East and west line of Fort		2							
Fifth	East line of Smith avenue		1							
Fort	North line of Third, M. H. & B. O.		2				1			
Fort	South line of Fifth on H		1							
Fort	South line of Sixth on H		1							
Fort	South line of Ninth, M. & H		1				1			
Fort	On H. between Ninth and Tenth		1							
Fourth	East of St. P. & D. Ry. on H			1						
Fourth	East and west line of Kittson				2					
Fourth	B. O. at Neill	1								

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOCATION OF VALVES (LOW SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
Seventh	Centre of Robert R. O.	1								
Seventh	East line of Wabasha					1				
Seventh	East line of St. Peter				1					
Seventh	East line of Third				1					
Seventh	West line of Eagle					1	1			
Seventh	West line of Chestnut on H.			1						
Seventh	At Walnut, H. & R. O.	1		2						
Seventh	North and south line of Ramsey, M. & H.			1	1	1	1			
Seventh	West line of Leech				1					
Seventh	South line of McHoal					1				
Seventh	At Goodrich R. O.	1								
Seventh	North line of Yankee					1				
Seventh	South line of Milwaukee Ry., M. & H.		1			1				
Seventh	At Jefferson, H. & R. O.	1	1							
Seventh	South line of Palace					1				
Seventh	At James R. O.	1								
Seventh	South line of Audobon					1				
Seventh	At Lee R. O.	1								
Sherman	South line of Exchange			1						
Sherman	South line of Wilkin			1						
Sherman	North and south line of Seventh			2						
Sherman	South line of Pleasant			1						
Sibley	North and south line of Third		1	1						
Sibley	South line of Fifth			1						
Sibley	North and south line of Seventh		1	1						
Sibley	North line of Ninth		1							
Sibley	North line of Tenth		1							
Sibley	North line of Spruce		1							
Sixth	West line of Kittson		1							
Sixth	West line of Neill		1							
Sixth	West line of Willius		1							
Sixth	East line of John		1							
Sixth	East line of Olive		1							
Sixth	East and west line of Broadway		2							
Sixth	West line of Rosabel		1							
Sixth	East line of Sibley		1							
Sixth	East and west line of Jackson		2							
Sixth	East line of Robert		1							
Sixth	East line of Minnesota		1							
Sixth	East and west line of Cedar		2							
Sixth	East and west line of Wabasha		2							
Sixth	East line of Washington			1						
Sixth	South line of Seventh			3						
Sixth	East line of Exchange			1						
Sixth	East and west line of Fort			2						
Sixth	North line of Smith avenue			1						
Smith	West line of Wilkin			1						
Smith	East and west line of Seventh			2						
Smith	West line of Smith ave			1						
Smith ave	North and south line of Seventh			2						
Smith ave	North line of Smith avenue			1						
Smith ave	North line of Ramsey			1						
Smith ave	North line of Sherman			1						
Smith ave	North line of Walnut			1						
Smith ave	North and south line of Third			2						
Smith ave	North line of Sixth			1						
Somerset	West line of John		1							
Somerset	East line of Pine		1							
State	South of Page					1				
State	South line of Elizabeth on H.			1						
State	North and south line of Louisa, M. & H.			1		1				
State	North and south line of Concord					2				
State	North line of Isabel					1				
State	North line of Morrison					1				
State	South line of Indiana					1				
State	Centre of proposed levee					1				
Summit ave.	West line of Minnesota			1						
Stryker	North line of George			1						
Stryker	North line of Winifred			1						
Stryker	North and south line of Isabel			2						

[illegible] OF [illegible] LAW SERVICE — [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	—	—	—	—	—	—	—	—	—

[illegible]

LOCATION OF VALVES (HIGH SERVICE)—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Capitol	East and west line of Jackson			2					
Capitol	West line of Western			1					
Capitol	West line of Pascal			1					
Capitol	West line of Simpson			1					
Capitol	East and west line of Snelling			2					
Capitol	East line of Aldine			1					
Carroll	West line of Rice			1					
Carroll	East line of Louis			1					
Carroll	West line of Farrington			1					
Carroll	East and west line of Western			2					
Carroll	East line of Mackubin			1					
Carroll	East and west line of Dale			2					
Carroll	East line of Grotto			1					
Carroll	West line of Avon			1					
Carroll	East and west line of Victoria			2					
Carroll	West line of Snelling			1					
Carroll	East and west line of Fairview			2					
Carroll	East and west line of Prior			2					
Carroll	East line of Cleveland			1					
Conway	East and west line of Mendota			2					
Conway	East line of Maple			1					
Conway	East and west line of Bates			2					
Cedar	North and south line of Central			2					
Cedar	North and south line of University			2					
Cedar	South line of Viola			1					
Central ave.	East line of Cedar			1					
Central ave.	West line of Wabasha			1					
Central ave.	West line of St. Peter		1						
Central ave.	East line of Rice		1						
Central P. D. E. and W.	South of Central avenue		2						
Charles	West line of Rice			1					
Charles	West line of Gaultier			1					
Charles	East and west line of Western			2					
Charles	East line of Mackubin			1					
Charles	East and west line of Dale			2					
Charles	East line of Grotto			1					
Charles	East and west line of Victoria			2					
Charles	West line of Fairview			1					
Como avenue	East and west line of Rice						2		
Como avenue	South line of Thomas on H		1						
Como avenue	East line of Claghorn on H		1						
Como avenue	South line of Lafond on H		1						
Como avenue	East and west line of Gaultier, M. and H		1				1		
Como avenue	East line of Elfelt on H		1						
Como avenue	North line of Van Buren on H		1						
Como avenue	North line of Minnehaha on H		1						
Como avenue	West line of Virginia on H		1						
Como avenue	East and west line of Western, M. and H		1				2		
Como avenue	South line of Atwater B O			1					
Como avenue	South line of Topping						1		
Como	East line of Dale						1		
Cherry	East line of Hoffman			1					
Cook	East and west line of Arcade			2					
Cook	West line of Greenbrier			1					
Cook	East line of Edgerton			1					
Cook	East line of Rice			1					
Case	East and west line of Arcade				2				
Case	West line of Greenbrier				1				
Case	East and west line of Edgerton				2				
Case	West line of De Soto				1				
Case	West line of McMenemy			1					
Claghorn	South line of Lake			1					
Cromwell	North and south line of Pym			2					
Cudworth	Head of Atty on H			1					
Cudworth	South line of Langford					1			
Clark	North line of Whital			1					
Clark	South line of Case			1					
Cross	East line of Lexington			1					
County road	South line of Dooley on H			1					

[illegible]

LOCATION OF VALVES (HIGH SERVICE) — *Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36 inch.
Edmund	East line of Grotto			1					
Edmund	East and west line of Victoria			2					
Eichenwald	South line of Seventh			1					
Euclid	West line of Cypress			1					
Euclid	East and west line of Mendota			2					
Elfelt	North line of Charles		1						
Elfelt	North line of Thomas		1						
Elfelt	North line of Lafond		1						
Edgerton	North and south line of Case				2				
Edgerton	South line of Magnolia				1				
Everett court	South line of Wheeler			1					
Evergreen	West line of Victoria			1					
Farrington	North line of Summit			1					
Farrington	North line of Laurel			1					
Farrington	North and south line of Dayton			2					
Farrington	North line of Nelson			1					
Farrington	South line of Carroll			1					
Farrington	South line of Rondo			1					
Farrington	North line of Sherburne			1					
Farrington	North line of Thomas			1					
Fauquier	West line of Duluth			1					
Fauquier	East and west line of Earl			2					
Fauquier	North and south line of Seventh			2					
Fauquier	East and west line of Arcade			2					
Fuller	West line of Rice			1					
Fuller	East line of Louis			1					
Fuller	West line of Farrington			1					
Fuller	East and west line of Western			2					
Fuller	East line of Mackubin			1					
Fuller	East and west line of Dale			2					
Fuller	West line of Victoria			1					
Fuller	East line of Charsworth			1					
Fifth	East and west line of Bates			2					
Floral	South line of Summit		1						
Fourth	East and west line of Mendota			2					
Fourth	East line of Maple			1					
Fourth	East and west line of Bates			2					
Francis	West line of Mendota			1					
Front	East and west line of Rice			1	1				
Front	East line of Gaultier				1				
Front	East and west line of Western				2				
Front	East line of Mackubin				1				
Front	East and west line of Dale st. main				2				
Front	East line of Grotto				1				
Front	East and west line of Victoria				2				
Front	East line of Chatsworth				1				
Front	East line of Lexington				1				
Forest	North line of Conway			1					
Forest	North line of Third			1					
Forest	North line of Fremont			1					
Forest	North line of Fourth			1					
Forest	North line of Dawson			1					
Forest	North line of York			1					
Forest	South line of Case			1					
Forest	North line of Jessamine			1					
Fairmount	East of St. Albans 275 feet			1					
Fairmount	East line of Grotto			1					
Fairmount	East line of Victoria			1					
Feronia	West line of Laura			1					
Feronia	East line of Prior			1					
Feronia	West line of Fairview			1					
Fremont	East and west line of Mendota			2					
Fairview	At Shields on H			1					
Fairview	North and south line of University, M. H. & B. O.	1		1		2			
Fairview	At Sherburne on H			1					
Fry	North and south line of Minnehaha		2						
Force Main	South of pumping station						1		
Force Main	B. O. at Trout Brook			1					
Force Main	South of McCarron Lake, M. & B. O.			1			1		

LOCATION OF VALVES HIGH SERVICE.—*Continued.*

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	36-inch.
Harvester	East line of White Bear				1				
Hazel	South line of Amen				1				
Horton	North line of Van Slyke			1					
Iglehart	West line of Wabasha			1					
Iglehart	East and west line of Rice			2					
Iglehart	West line of Summit place			1					
Iglehart	West line of Louis			1					
Iglehart	West line of Farrington			1					
Iglehart	East and west line of Western			2					
Iglehart	East line of Mackubin			1					
Iglehart	East and west line of Dale			2					
Iglehart	East line of Grotto			1					
Iglehart	West line of Avon			1					
Iglehart	East and west line of Victoria			2					
Iglehart	East line of Chatsworth			1					
Iglehart	East and west line of Prior			2					
Jackson	North line of University			1					
Jackson	South line of Valley			1					
Jackson	North and south line of Como				1	1			
Jackson	South line of Pennsylvania				1				
Jackson	South line of Sycamore				1				
Jay	South line of Martin			1					
Jay	South line of Fuller			1					
Jessamine	East and west line of Arcade			2					
Jessamine	West line of Greenbrier			1					
Jessamine	East and west line of Edgerton			2					
Jessamine	East line of Bradley			1					
Jessamine	West line of Burr			1					
Jessamine	West line of Clark			1					
Jessamine	West line of Arkwright			1					
Jessamine	East and West line of McMenemy			2					
Jessamine	West line of Rice			1					
Jessie	North line of Case			1					
Jessie	North line of Jenks			1					
Jessie	North line of Lawson			1					
Jessie	North line of Cook			1					
Jessie	North line of Magnolia			1					
Kent	South line of Holly		1						
Kent	South line of Ashland		1						
Kent	South line of Laurel		1						
Kent	South line of Selby		1						
Kent	North line of Marshall		1						
Kent	North line of Iglehart		1						
Knapp	South line of Langford			1					
Keston	South line of Carter								
Laura	North and south line of Waltham			2					
Laura	South line of University			1					
Laurel	West line of Nina			1					
Laurel	East line of Virginia			1					
Laurel	East and west line of Western			2					
Laurel	East line of Mackubin			1					
Laurel	East and west line of Dale			2					
Laurel	East line of Grotto			1					
Laurel	West line of Avon			1					
Laurel	East and west line of Victoria			2					
Laurel	East line of Chatsworth			1					
Lawton	South line of Summit			1					
Lincoln	West line of Oakland			1					
Lincoln	East and west line of Dale			2					
Lincoln	East line of Grotto			1					
Lincoln	East and west line of Victoria			2					
Lincoln	East line of Chatsworth			1					
Louis	North line of Nelson			1					
Louis	South line of Carroll			1					
Louis	South line of Rondo			1					
Louis	South line of St. Anthony			1					
Louis	South line of Martin			1					
Louis	South line of Fuller			1					
Linden	North line of Mt. Airy			1					
Lafond	West line of Rice			1					

[illegible]

LOCATION OF WATER HIGH SERVICE.—Continued.

Street.	Location.	2-inch.	4-inch.	6-inch.	10-inch.	12-inch.	20-inch.	24-inch.	30-inch.
Racine	East and west line of Bates		2						
Raymond	North line of Rosemary, M. & B.			1		1			
Raymond	South line of Territorial road on B.			1					
Raymond	North line of Ellis on B.			1					
Raymond	East line of Burton			1					
Raymond	South line of Marcus			1					
Raymond	North and south line of Wheeler			2					
Raymond	South line of Amy			1					
Raymond	South line of Frost			1					
Roberts	East line of Burton			1					
Rose	West line of Arvada			1					
Rose	East line of Edgerton			1					
River	West line of Marin		1						
St. Anthony	West line of Rice			1					
St. Anthony	West line of Lexington			1					
St. Anthony	West line of Farrington			1					
St. Anthony	East and west line of Western			2					
St. Anthony	East line of Mackubin			1					
St. Anthony	East and west line of Dale			2					
St. Anthony	East line of Grotto			1					
St. Anthony	West line of Avon			1					
St. Anthony	East and west line of Victoria			2					
St. Anthony	West line of Sherman			1					
St. Anthony	West line of Fry			1					
St. Anthony	West line of Aldine			1					
St. Anthony	West line of Wheeler			1					
St. Anthony	East and west line of Fairview			2					
St. Anthony	East and west line of Prior			2					
St. Anthony	East line of Cleveland			1					
St. Peter	South line of Ingelhart			1					
St. Peter	South line of Tilton			1					
St. Peter	North and south line of Martin			2					
St. Peter	South line of University			1					
Selby	West line of Summit			1					
Selby	West line of Nina			1					
Selby	West line of Farrington			1					
Selby	East and west line of Western			2					
Selby	East line of Mackubin			1					
Selby	East and west line of Dale			2					
Selby	East line of Grotto			1					
Selby	West line of Avon			1					
Selby	East and west line of Victoria			2					
Selby	East line of Chatsworth			1					
Selby	East and west line of Lexington			2					
Selby	East line of Griggs			1					
Selby	East and west line of Hamline			2					
Selby	East line of Pascal			1					
Seventh	West line of White Bear					1			
Seventh	West line of Bock					1			
Seventh	East and west line of Phalen					2			
Seventh	East line of Duluth					1			
Seventh	East and west line of Earl, M. & B. O.		1			1			
Seventh	South line of Fauquier					1			
Seventh	B. O. at Mendota	1							
Seventh	North line of Beech					1			
Seventh	West line of Maple, M. & B. O.	1				1			
Seventh	West line of Hoffman, M. & B. O.	1				1			
Sherburne	West line of Cedar			1					
Sherburne	East line of Park			1					
Sherburne	East and west line of Rice			2					
Sherburne	West line of Gaultier			1					
Sherburne	East and west line of Western			2					
Sherburne	East line of Mackubin			1					
Sherburne	East and west line of Dale			2					
Sherburne	East line of Grotto			1					
Sherburne	East and west line of Victoria			2					
Suction main	Northeast of pumping station, M. & B. O.			1				2	
Summit ave	East line of Wabasha			1					
Summit ave	East line of St. Peter			1					
Summit ave	East and west line of Rice, M. & B. O.	1		1	1				

LOCATIONS OF VALVES—HIGH SERVICE—[illegible]

Street	Location	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Third	East and west side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Third	East side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Third	East and west side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Third	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thirteenth	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thirteenth	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tilton	East side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tilton	East side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thomas	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thomas	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thomas	East side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thomas	East and west side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thomas	East side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thomas	East and west side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thomas	East side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Thomas	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Topping	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Topping	East side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taylor	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taylor	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Taylor	East and west side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Territorial rd.	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Territorial rd.	East side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	South side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	[illegible] West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East and west side of [illegible], M. & H.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	West side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East and west side of Western	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of Mackinaw	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East and west side of [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of St. Albans on H	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of [illegible] on H	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of [illegible] on H	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East and west side of [illegible], M. & H.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]
University	East side of Clifton on H	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of Chatsworth on H	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of Oxford on H	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East and west side of Lexington, M. & H.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]
University	East side of [illegible] on H. B.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of [illegible] on H	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of Syndicate on H. B.	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East and west side of Hamline, M. & H.	[illegible]	1	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]
University	East side of [illegible] on H. B.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of [illegible] on H	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of Simpson on H. B.	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of [illegible] on H. B.	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East and west side of Spelling, M. & H.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]
University	East side of [illegible] on H. B.	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of [illegible] on H	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of Wheeler on H	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East and west side of Fairview, M. & B. O.	[illegible]	1	[illegible]	[illegible]	[illegible]	2	[illegible]	[illegible]
University	East and west side of Prior on M. & H.	[illegible]	1	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]
University	East end of Transfer bridge on H	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	Centre of Transfer bridge on H	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	West side of Cleveland, M. & H.	[illegible]	[illegible]	2	[illegible]	[illegible]	1	[illegible]	[illegible]
University	West side of Montgomery on H	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	West side of Vandalia on H	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	West side of Pillsbury on H	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	West side of Hersey on H	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	West side of La Salle on H	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	West side of Clinton on H	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
University	East side of Raymond	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]
Valley	West side of Broadway	[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]
Viola	West side of Cedar	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Viola	East side of Park	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Viola	East side of Rice	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Virginia	North side of Summit	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Virginia	South side of Selby	[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LOCATION OF VALVES, HIGH SERVICE (WEST SIDE).

Street.	Location.	6-inch.	12-inch.	16-inch.
Baker	West line of Bidwell		1	
Baker	West line of Charlton		1	
Baker	East and west line of Manoomin		2	
Baker	East line of Cherokee		1	
Bidwell	South line of Baker			1
Bunker	West line of Mt. Hope	1		
Cherokee	South line of Winona	1		
Cherokee	North line of Belmont	1		
Cherokee	North line of Page	1		
Cherokee	North and south line of Baker	2		
Cherokee	North line of Stevens	1		
George	West line of Charlton	1		
George	West line of Ohio	1		
George	East and west line of Manoomin	2		
Hall	North line of Morton	1		
Manoomin	North line of Annapolis		1	
Manoomin	South line of Sidney		1	
Manoomin	South line of Baker		1	
Morton	East line of Hall			1
Oakdale	North line of Page	1		
Oakdale	South line of Midway, D. H. & L.	1		
Ohio	North line of Belmont	1		
Ohio	North line of Page	1		
Ohio	North and south line of Baker	2		
Ohio	North line of Stevens	1		
Ohio	North line of Robie	1		
Orleans	North and south line of Baker	2		
Orleans	North line of Stevens	1		
Orleans	South line of Robie	1		
Page	East and west line of State, M. & H.	2		
Page	East line of Oakdale	1		
Robert	North and south line of Page			2
State	South line of Page			1
Stryker	North and south line of Morton	2		
Total		29	8	5

Number of valves on high service, West Side, 42. Total number valves on high, low and high service, West Side, 1,338.

Reference: M., main; B. O., blow off; H., on hydrant; H. B., on hydrant branch; D. H. & L., dividing between high and low service.

INVENTORY OF STOCK AND TOOLS — *Continued.*

STABLE AND MISCELLANEOUS CHATTEL

[illegible] horses.
2 large trucks for hauling from 12 to 36 inch pipe.
2 light trucks.
2 light wagons.
2 buggies.
2 light two-sleighs.
3 cutters.
6 sets single harness.
8 horse blankets.
15 pairs bedding stanchions.
5 robes.
A quantity of feed for horses.
6 forks.
1 anvil.
20 jackscrews.
1 farmer's kettle.
1 hickory stove.
15 pairs rubber boots.
[illegible] horses.
[illegible] pieces standing 8 feet long.
[illegible] pieces for 8, 10 feet long.
[illegible] pieces 24-30, 36 feet long.
[illegible] wheelbarrows.
2 grinding stones.
1 sprinkler.
1 plow.
1 sod cutter.

RESERVOIR.

6 dirt scrapers.
1 lawn mower.
6 sections 2 inch hose.
6 water buckets.
1 fork.
1 garden rake.
2 pipe wrenches.
1 grinding stone.

CITY ENGINEER'S REPORT

When the water was drawn down the reservoir was found to be in good condition. It was thoroughly cleaned and some few repairs made to the cement plastering of the bottom, where it had scaled off. In connection with this work 1,200 feet of vitrified pipe was laid to discharge the water when emptying the reservoir. The whole work was done under the direction of the superintendent of the board.

ARTESIAN WELLS.

During the months of July and August, a six-inch artesian well was sunk north of Pleasant lake, between Deep lake and Wilkinson's lake. The following is taken from the report of Mr. J. F. McCarthy, contractor for putting down the well, of the material through which the well was drilled and where water was struck:

	Feet.
Black soil	3
Blue clay	12
Hardpan	5
Boulders and hardpan	50
Gravel (water commenced to flow)	5
Boulders and hardpan	50
Blue clay	4
Sand-rock and shell-rock	12
Blue shale	6
Sand-rock (water increased)	5
Gray hardpan	10
Red hard rock (lime and flint)	88
Sand-rock (water increased)	3
Red hard rock (flint)	75
Soft rock, cavey (water ceased to flow for two days)	5
Hard rock	65
Sand-rock	24
Total depth	422

As will be seen from this report, water commenced to flow at a depth of 75 feet. An increased flow was obtained at several points up to a depth of 253 feet. Water ceased to flow a few days at 333 feet, and although the well was sunk to a depth of 422 feet, the flow was no larger than obtained at a depth of 253 feet. In fact, I think there was very little increase in flow in going below 150 to 160 feet.

The flow, as finally measured, was 72,000 gallons per 24 hours, which shows that we can not depend on flowing wells for any considerable supply at this point. To get any large amount of water we would have to resort to pumping. Total cost of the well was about $2 per lineal foot.

WATER CONSUMPTION.

In accordance with your instructions, during the month of April a weir was put in the gate-chamber at Vadnais lake, and proper gauges were established to determine the amount of water discharged, in order to ascertain, as nearly as possible, the amount of water used in the daily service. Every time that the gates were opened or closed, which was sometimes as often as three or four times a day, a record was made of the reading of the gauge. The same method of measurement was also adopted when we were pumping from the artesian wells.

On the first of December the gauge readings at Vadnais were [illegible] feet. Flows also [illegible] feet, while the condition of the water in the filter plant, both as regards quantity and quality, was much better than at any time during the past two or three years.

I submit herewith, as a part of this report, a table showing a record of the rainfall at St. Paul commencing with the year 1857, to date. These tables have been carefully compiled from records which were kept at Fort Snelling, from 1857 to 1864, from the records of the United States Engineer's office, St. Paul, from 1865 to 1887, from the records of Dr. Zimmerman from 1869 to 1871, and from records kept by the United States signal service, from 1871 to date, and are, believe, the most complete and trustworthy records that can be obtained.

TEST OF SIX-MILLION-GALLON ENGINE.

On June 17th a report was made on the test on the six-million-gallon engine at McCarron's pine pumping station, which I include in the annual report, in order that it may receive mention in printing the report, as it is a matter of considerable professional interest.

To the Board of Water Commissioners:

GENTLEMEN: I submit herewith a report of the capacity and duty test of the six-million-gallon engine at McCarron's pine pumping station, as made on the forenoon of seventh days of June, instant, 1886. Capacity test was made on the forenoon mentioned, by pumping over a carefully constructed weir, the engine being run as nearly as possible in accordance with the requirements of the duty test. The test was continued for eight hours, measurements being taken on the weir every five minutes, and as the results were quite uniform, it seemed unnecessary to continue it longer. As a result, the slip of the pumps was determined as seventy-three hundredths of one per cent.

Duty test commenced at nine o'clock on the morning of the fifteenth, and was continued for twenty-four hours. By accurate measurement the diameter of the plungers was 19; inches; length of stroke, 36 inches. There were three plungers.

The capacity of the pump by plunger displacement was 143.21 gallons per revolution.

Total number of revolutions made during the test, 43,773.

Average per minute, 30.4.

Total number of gallons pumped (plunger displacement), 6,268,731 gallons; by weir measurement, 6,222,970 gallons.

The weight of the water was determined at 8.33 pounds per gallon.

Total weight of water pumped (plunger displacement), 52,218,532.

Average height of water pumped, from readings taken on the gauge every fifteen minutes, 172,406 feet.

Equivalent weight of water raised one foot, 9,055,006,759.99 pounds.

Total weight of coal used in twenty-four hours, 7,912 pounds.

Duty, in foot pounds, 114,446,496; less percentage of weir measurements, 113,611,057.

Required by the specifications, 96,000,000.

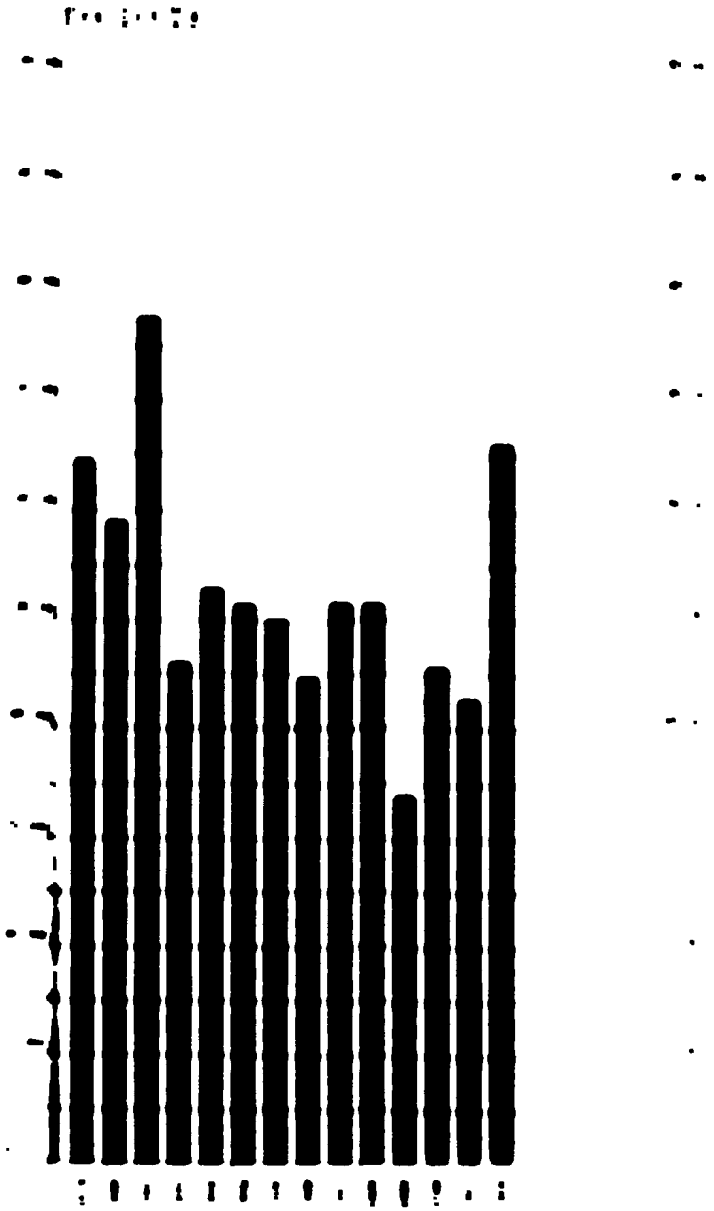
[illegible]

[illegible]

[illegible]

TOTAL AND AVERAGE RAINFALL FOR THE YEARS FROM 1837 AND UP TO AND INCLUDING 1892.

	1890.		1891.		1892.	
	Total.	Average	Total.	Average	Total.	Average
January	50.86	0.959	51.87	0.964	52.07	0.947
February	42.61	0.804	43.79	0.811	45.23	0.822
March	70.47	1.329	71.41	1.322	72.16	1.312
April	120.26	2.269	121.97	2.259	122.94	2.235
May	170.97	3.226	172.30	3.191	177.14	3.226
June	216.61	4.087	220.69	4.087	228.19	4.149
July	179.35	3.384	181.42	3.360	190.46	3.463
August	184.22	3.476	187.64	3.475	191.30	3.478
September	179.08	3.379	179.66	3.326	181.38	3.298
October	97.61	1.842	99.18	1.837	100.57	1.828
November	76.28	1.439	77.21	1.430	77.57	1.410
December	55.86	1.054	58.73	1.087	59.26	1.078
Year	1,444.18	27.25	1,465.97	27.15	1,498.60	27.25



[illegible]

[illegible]

TREASURER'S REPORT

[illegible]

[illegible]

[illegible]

RECEIPTS.

Balance, Dec. 1, 1897	[illegible]
Dec. [illegible], 1897, John Caulfield, secretary	[illegible]
Dec. [illegible], 1897, John Caulfield, secretary	[illegible]
Dec. [illegible], 1897, John Caulfield, secretary	[illegible]
Jan. [illegible], 1898, John Caulfield, secretary	[illegible]
Jan. [illegible], 1898, John Caulfield, secretary	[illegible]
Feb. [illegible], 1898, John Caulfield, secretary	[illegible]
Feb. [illegible], 1898, John Caulfield, secretary	[illegible]
March [illegible], 1898, water frontage tax	[illegible]
March [illegible], 1898, John Caulfield, secretary	[illegible]
April [illegible], 1898, John Caulfield, secretary	[illegible]
April [illegible], 1898, John Caulfield, secretary	[illegible]
April [illegible], 1898, John Caulfield, secretary	[illegible]
May [illegible], 1898, John Caulfield, secretary	[illegible]
May [illegible], 1898, John Caulfield, secretary	[illegible]
May [illegible], 1898, John Caulfield, secretary	[illegible]
May [illegible], 1898, John Caulfield, secretary	[illegible]
June [illegible], 1898, John Caulfield, secretary	[illegible]
June [illegible], 1898, John Caulfield, secretary	[illegible]
June [illegible], 1898, water frontage tax	[illegible]
June [illegible], 1898, John Caulfield, secretary	[illegible]
June [illegible], 1898, John Caulfield, secretary	[illegible]
July [illegible], 1898, John Caulfield, secretary	[illegible]
July [illegible], 1898, John Caulfield, secretary	[illegible]
July [illegible], 1898, water frontage tax	[illegible]
Aug. [illegible], 1898, John Caulfield, secretary	[illegible]
Aug. [illegible], 1898, John Caulfield, secretary	[illegible]
Aug. [illegible], 1898, John Caulfield, secretary	[illegible]
Aug. [illegible], 1898, John Caulfield, secretary	[illegible]
Aug. [illegible], 1898, John Caulfield, secretary	[illegible]
Aug. [illegible], 1898, water frontage tax	[illegible]
Aug. [illegible], 1898, John Caulfield, secretary	[illegible]
Oct. [illegible], 1898, John Caulfield, secretary	[illegible]
Oct. [illegible], 1898, John Caulfield, secretary	[illegible]
Oct. [illegible], 1898, John Caulfield, secretary	[illegible]
Nov. [illegible], 1898, John Caulfield, secretary	[illegible]
Nov. [illegible], 1898, water frontage tax	[illegible]
Nov. [illegible], 1898, John Caulfield, secretary	[illegible]
Total receipts	$355,[illegible].17

PAYMENTS.

December, 1897, warrants paid	$8,[illegible].11
January, 1898, warrants paid	19,[illegible].63
February, 1898, warrants paid	9,[illegible].97
March, 1898, warrants paid	15,[illegible].38
April, 1898, warrants paid	36,479.80
May, 1898, warrants paid	24,391.32
June, 1898, warrants paid	42,[illegible].80
July, 1898, warrants paid	47,092.21
August, 1898, warrants paid	36,341.82
September, 1898, warrants paid	50,577.80
October, 1898, warrants paid	34,353.82
November, 1898, warrants paid	73,233.11
Total	$347,864.47
Balance, Dec. 1, 1897	7,358.70
	$355,223.17 $355,223.17

CONRAD W. MILLER,
City Treasurer.

[illegible]

[illegible]

[illegible]

TWELFTH ANNUAL REPORT

OF THE

BOARD

WATER COMMISSIONERS

OF THE

CITY OF ST. PAUL

FOR THE YEAR 1896.

[illegible] ANNUAL REPORT

[illegible]

BOARD

[illegible]

WATER COMMISSIONERS

[illegible]

[illegible]

[illegible]

[illegible]

OFFICERS.

OF THE

CITY WATER WORKS,

DECEMBER 1, 1893.

BOARD OF WATER COMMISSIONERS.

R. B. C. BEMENT, President. Term Expires Jan. 1, 1897.

A. H. LINDEKE. Term Expires Jan. 1, 1897.

J. F. HOYT. Term Expires Jan. 1, 1896.

H. E. STEVENS. Term Expires Jan. 1, 1898.

P. H. KELLY. Term Expires Jan. 1, 1895.

JOHN CAULFIELD, Secretary.

JOHN B. OVERTON, Superintendent.

L. W. RUNDLETT, City Engineer and Engineer of the Board.

MARTIN FEIST, Chief Engineer and Engineer of McCarron Lake Station.

JOHN SILVIS, Assistant Engineer of McCarron Lake Station.

JOHN MELROSE, Gate Keeper and Engineer of Vadnais Lake Station.

GEO. W. TAYLOR, Assistant Engineer of Vadnais Lake Station.

JACOB ABRESCH, Engineer of Baldwin Lake Station.

A. A. THOMPSON, Assistant Engineer of Baldwin Lake Station.

JOS. DOERR, Engineer of West St. Paul Station.

WM. WALSH, Assistant Engineer of West St. Paul Station.

BOARD OF WATER COMMISSIONERS

It is hoped by this Board that provision will be made in the tax levy to cover this amount which this Board considers under the law as belonging to its Sinking Fund for the redemption of outstanding bonds, and which when collected will be paid into that fund.

Respectfully submitted,

R. B. C. BEMENT.
A. H. LINDEKE.
J. F. HOYT
P. H. KELLY.
THOS. GRACE.

SECRETARY'S REPORT

The miscellaneous water receipts from builders, hydrant streams for flushing sewers, skating rinks, etc., filling cisterns and for sprinkling streets were nineteen thousand five hundred and eighty-three dollars and ninety-five cents ($19,583.95), an increase of one hundred and twenty-two dollars and twenty-one cents ($122.21) from builders, five hundred and five dollars and eighty-six cents ($505.86) for filling cisterns, a decrease of one hundred and fifty-four dollars and fifty-nine cents ($154.59) for flushing sewers, etc. The charges for water for sprinkling streets for 1893, were thirteen thousand four hundred and eighty-three dollars and eighty cents ($13,483.80), a decrease of five hundred and seven dollars and twelve cents ($507.12) over that of 1892.

Extension account is credited with six hundred and forty-six dollars and nineteen cents ($646.19), of which thirty-eight dollars and fifty cents ($33.50) was received from sale of 77 loads of rock taken from pipe trenches, one hundred and ninety-three dollars and seventy-seven cents ($193.77) for 27,677 pounds of scrap iron sold, three hundred and ninety-eight dollars and fifty-five cents ($398.55) for work done and material furnished for the C., St. P., M. & O. R. R. Co., N. W. Cordage Co., Walter A. Wood Harvester Co., Noyes Bros. & Cutler, and from the sale of oil barrels, and fifteen dollars and thirty-seven cents ($15.37) retained and unclaimed on the pay rolls for the year.

Repair account is credited with twenty-eight dollars and sixty-two cents ($28.62) of which twenty dollars and forty cents ($20.40) was paid by Robert Wellisch for repairs done by the water department to fire hydrants purchased from him, and eight dollars and twenty-two cents ($8.22) from the City Railway Co., for damages to main corner 7th and Earl.

INTEREST, REPAIRS, EXTENSIONS, GENERAL MAINTENANCE, AND OTHER ACCOUNTS.

One hundred and twenty thousand five hundred and forty-six dollars and thirty-six cents ($120,546.36) has been paid out and charged to interest account, of which one hundred and fourteen thousand and two hundred dollars ($114,200.00) was for interest on the bonds, seven hundred and nineteen dollars and seventeen cents ($719.17) for interest on the floating debt outstanding last year, and fifty-six hundred and twenty-seven dollars and nineteen cents ($5,627.19) was for interest received last year on certificates of indebtedness and credited to interest account, and which properly belonged to the sinking fund. This amount was credited to sinking fund earnings and charged to sinking fund this year.

REPAIR ACCOUNT.

Thirty-two hundred and sixty-two dollars and sixty-seven cents was paid on this account, of which twenty-six hundred and eighty-nine dollars and thirty-three cents ($2,689.33) was on account of hydrants, three (3) dollars on account of valves, and five hundred and seventy dollars and thirty-four cents ($570.34) on account of mains.

GENERAL MAINTENANCE.

Thirty-six thousand four hundred and four dollars and eighty-four cents ($36,404.84) was paid on this account, an increase of one thousand and fifty-five dollars and seventy two cents ($1,055.72) over the expenditures of 1892,

cents ($121,663.19) was paid by the City of St. Paul, under the legislative act of 1891 for hydrant service, ten thousand three hundred and eighty-four dollars and sixty-three cents ($10,384.63) being the interest earnings on same, and forty thousand dollars ($40,000.00) from the surplus earnings of the works.

All work in laying mains, putting in service pipes and work done at reservoir and various pumping stations, has been as usual, done by days work. The pay rolls of all officers and employes for the year amounted to sixty-six thousand two hundred and fifty-eight dollars and ninety-nine cents ($66,258.99) and the average monthly employes has been 149.

CONTRACTS.

Contracts have been let during the year amounting to fifty-five thousand two hundred and sixty-four dollars and fifty-three cents ($55,264.53), of which forty-eight thousand six hundred and twenty-one dollars and twenty-one cents ($48,621.21) has been paid, leaving a balance of sixty-six hundred and forty-three dollars and thirty-two cents ($6,643.32) to be paid when contract is completed.

On December 1st, 1892, there was due on various contracts, not then completed, the sum of thirty-four hundred and forty-four dollars and eighty-two cents ($3,444.82), on which thirty-three hundred and ninety-four dollars and eighty-two cents ($3,394.82) has been paid, leaving a balance of fifty (50) dollars due.

BONDED DEBT.

No increase has been made in the bonded debt during the year. The present bonded debt is two million four hundred and sixty thousand dollars ($2,460,000), the interest on which is paid from the revenue of the works.

FRONTAGE TAX.

There has been collected during the year by the County Treasurer, one hundred and seven thousand eight hundred and ninety-nine dollars and eleven cents ($107,899.11) on account of frontage tax, of which ninety-six dollars and fifty-five cents ($96.55) was for the years 1884-5-6-and-7; thirty-six dollars and sixty-three cents ($36.63) for the year 1888, one hundred and twenty dollars and six cents ($120.06) for the year 1889, ten hundred and twenty-one dollars and eleven cents ($1,021.11) for the year 1890, thirteen thousand two hundred and eighteen dollars and seventy-four cents ($13,218.74) for the year 1891, and ninety-three thousand four hundred and six dollars and two cents ($93,406.02) for the year 1892, leaving a balance due of forty-five thousand five hundred and fifty dollars and eighty-eight cents ($45,550.88), of which twenty-one hundred and two dollars and eighty-six cents ($2,102.86) is for the years 1884-5-6-and-7, eleven hundred and twenty-five dollars and sixty-two cents ($1,125.62) is for the year 1888, twelve hundred and twenty-five dollars and sixty-four cents ($1,225.64) is for 1889, forty-one hundred and eighty dollars and forty cents ($4,180.40) for 1890, sixty-four hundred and thirty-five dollars and ninety-three cents ($6,435.93)for 1891, and thirty thousand four hundred and eighty dollars and forty-three cents ($30,480.43) is for the year 1892.

The frontage tax asssessment for 1893 has been made, and is now in the

TRIAL BALANCE, DECEMBER 1, 1893

ACCOUNT	DR.	CR.
St. Paul water works original purchase	850,000.00	
Bond account		72,000,000.00
General water receipts		1,501,768.05
Miscellaneous water receipts		198,482.46
Connection account street services		11,071.00
Extension account	1,776,797.39	
General maintenance account	276,320.80	
Repair account	41,895.70	
Meter account	25,805.34	
Construction account	1,090,366.37	
Interest	939,515.11	
Conrad W. Miller, city treasurer	13,320.74	
General water receipts hydrant account		121,663.19
Sinking fund account	172,047.92	
Sinking fund earnings account		10,384.63
Shutting off and turning on water penalty		1,959.00
Frontage tax		542,745.92
	74,849,069.27	74,849,069.27

RECEIPTS AND DISBURSEMENTS FROM AUG 2, 18[illegible] TO DEC 1, 18[illegible]

BALANCE.

General water receipts, high service	[illegible]		
" " " low service	[illegible]		
" " " meters	[illegible]		
		[illegible]	
Miscellaneous receipts, buildings	[illegible]		
" " water tarts	[illegible]		
" " flushing sewers	[illegible]		
" " hauling cisterns	[illegible]		
" " sprinkling streets	[illegible]		
		[illegible]	
Connections—Services		[illegible]	
Extension		[illegible]	
Interest		[illegible]	
Frontage tax		544,[illegible]	
Shutting off and turning on water		[illegible]	
General water receipts, hydrant account		[illegible]	
Sinking fund earnings		[illegible]	
Construction		[illegible]	
Bills payable		[illegible]	
Repair		[illegible]	
Bonds		[illegible]	
Total receipts			[illegible] 41

DISBURSEMENTS.

General Maintenance—			
Salaries	156,[illegible] 35		
Stationery and printing	[illegible] 15		
Miscellaneous	5,[illegible] 56		
Labor	[illegible]		
Material	61,[illegible]		
Stable, Feed	4,[illegible] 48		
Stable, Repairs	2,510.28		
		27[illegible] 55	
Connections—			
Labor	133,240.53		
Pipe	68,[illegible] 97		
Brass goods and stop boxes	37,[illegible] 26		
Tools and miscellaneous	6,525.02		
		244,167.78	
Repairs—			
Hydrants, Labor	27,[illegible] 52		
Hydrants, Material	1,365.56		
Valves, Labor	294.68		
Valves, Material	229.50		
Mains, Labor	13,[illegible] 33		
Mains, Material	2,091.11		
		45,083.70	
Meters—			
Labor	9,465.82		
Freight and meters	19,210.52		
		28,676.34	
Extensions—			
Pipe and special castings	951,123.69		
Labor	566,727.05		
Tools and repairs of same	17,[illegible] 41		
Advertising	294.84		
Fire hydrants	92,[illegible] 23		
Valves	71,273.22		
Lead and hemp packing	61,714.35		
Lumber and material	19,404.02		
Miscellaneous and building account	24,167.90		
		1,804,629.31	
Construction (new supply)—			
Pipe and special castings	175,068.36		
Labor	535,596.04		
Tools and repairs of same	5,100.44		
Lumber and material	84,992.76		
Freight	9,374.01		
Engineering and right of way	117,449.54		
Miscellaneous and building account	18,387.26		
Reservoir	147,483.87		
		1,093,382.28	
Interest		1,907,479.95	
Returned frontage tax		1,735.94	
Bills payable		653,000.00	
Bond		160,000.00	
Sinking fund		172,047.82	
Total disbursements			$5,486,477.67
Balance			613,389.74

WARRANTS DRAWN ON CITY TREASURER FROM DEC. 1. 1892, TO DEC. 1, 1893

1892.				
Dec. 1.....	Warrant No. 5843.....	$8,181.50		
Dec. 6.....	Warrant No. 5844.....	7,000.00		
Dec. 13....	Warrants Nos. 5845 to 5879 inclusive....	963.37		
Dec. 20.....	Warrant No. 5880.....	1,200.00		
Dec. 28....	Warrant No. 5881.....	666.05		
			$18,010.92	
1893.				
Jan. 5....	Warrants Nos. 5882 to 5883 inclusive....	9,834.23		
Jan. 11.....	Warrants Nos. 5884 to 5913 inclusive....	792.58		
Jan. 23. ..	Warrants Nos. 5914 to 5915 inclusive....	13,896.67		
			24,523.48	
Feb. 1.....	Warrant No. 5916.....	3,458.03		
Feb. 8....	Warrants Nos. 5917 to 5947 inclusive.....	2,081.21		
Feb. 16.....	Warrant No. 5948.....	5,627.19		
			11,166.43	
March 1..	Warrants Nos. 5949 to 5959 inclusive.....	10,665·24		
March 10..	Warrants Nos. 5960 to 5987 inclusive.....	2,312.15		
March 21..	Warrant No. 5988.....	25,000.00		
			37,977.39	
April 1....	Warrant No 5989.....	4,151.04		
April 5...	Warrants Nos. 5990 to 6017 inclusive....	1,397.91		
April 21....	Warrants Nos. 6018 to 6032 inclusive.....	10,038.67		
April 27....	Warrrant No. 6033.....	3,830.26		
			19,417.88	
May 1....	Warrant No. 6034.....	4,642.20		
May 4....	Warrants Nos. 6035 to 6045 inclusive....	14,041.60		
May 10.....	Warrants Nos. 6046 to 6071 inclusive.....	1,756 05		
			20,439.85	
June 1....	Warrant No. 6072.....	9,815.71		
June 8...	Warrants Nos. 6073 to 6123.....	23,619.18		
June 15...	Warrant No. 6125.....	15,572.50		
June 29....	Warrants Nos. 6124 and 6126.....	7,730.35		
			56,737.74	
July 5.....	Warrant No. 6127.....	10,021.07		
July 8.....	Warrants Nos. 6128 to 6156 inclusive.....	4,756.90		
July 19.....	Warrants Nos. 6157 to 6178 inclusive....	5,250.39		
			20,028.36	
Aug. 1....	Warrant No. 6179.....	6,063.75		
Aug. 3.....	Warrants Nos. 6180 to 6211 inclusive.....	1,790.58		
Aug. 21.....	Warrants Nos. 6212 to 6226 inclusive.....	9,235.12		
			17,089.45	
Sept. 1...	Warrant No. 6227.....	4,172.81		
Sept. 2....	Warrants Nos. 6228 to 6244 inclusive.....	1,047.00		
Sept. 21....	Warrants Nos. 6245 to 6246 inclusive...	45,000.00		
Sept. 25...	Warrants Nos. 6247 to 6270 inclusive.....	665 43		
			50,885.24	
Oct 2.....	Warrant No. 6271.....	4,362.42		
Oct. 9.....	Warrants Nos. 6272 to 6305 inclusive....	10,066.63		
			14,429.05	
Nov. 1.....	Warrant No. 6306.....	3,747.25		
Nov. 6.....	Warrants Nos. 6307 to 6350 inclusive.....	11,649.86		
	Warrants Nos. 6351 to 6352 inclusive.....	10,970.82		
			26,367.93	
				317,073.72
	Balance.....			$13,320.74

BOND ACCOUNT, DECEMBER 1, 1893.

Date of Legislative Acts Authorizing Issue of Bonds.	Amount of Bonds Authorized.	Date of Bonds Issued.	When Due.	Amount of Bonds Issued.	Rate Per Cent.	Interest Payable. December 1st.	January 2nd.	February 1st.	March 2d.	April 1st.	May 2d.	June 1st.	July 2d.	August 1st.	September 1st.	October 1st.	November 2d.	Total Annual Interest.
Feb. 10, 1881.	$600,000	June 1, 1882..	30 years....	$350,000	4	$7,000	.....	.....	.....	.....	.....	$7,000	.....	.....	.....	.....	.....	$14,000
Jan. 26, 1883.	500,000	Aug. 1, 1883..	30 years....	150,000	5	.....	.....	$3,750	....	.....	.....	.....	.....	$3,750	.....	.....	.....	7,500
Feb. 21, 1885.	800,000	April 1, 1884..	25 &30 yrs.	600,000	5	.....	.....	.....	.....	$15,000	.....	.....	.....	.....	.....	$15,000	.....	30,000
Jan. 31, 1887.	200,000	April 1, 1885..	30 years....	400,000	5	.....	.....	.....	.....	10,000	.....	.....	....	.....	.....	10,000	.....	20,000
Jan. 31, 1887	160,000	May 2, 1887....	30 years....	200,000	4½	.....	.....	.....	.....	.....	$4,500	.....	.....	.....	.....	.....	$4,500	9,000
Mch 29, 1889.	300,000	March 1, 1888.	30 years....	300,000	4½	.....	.....	.....	$6,750	.....	.....	.....	.....	.....	$6,750	.....	.....	13,500
.....	.....	Jan. 1, 1889....	30 years....	100,000	4½	.....	$2,250	.....	.....	.....	.....	.....	$2,250	.....	.....	.....	.....	4,500
.....	.....	Jan. 2, 1889....	30 years...	160,000	4½	.....	3,600	.....	.....	.....	.....	.....	3,600	.....	.....	.....	.....	7,200
.....	.....	May 1, 1889...	30 years...	100,000	4½	.....	.....	.....	.....	.....	2,250	.....	.....	.....	.....	.....	2,250	4,500
.....	.....	May 1, 1899....	30 years...	100,000	4	.....	.....	.....	.....	.....	2,000	.....	.....	.....	.....	.....	2,000	4,000
	$2,560,000	.....	.....	$2,460,000	.....	$7,000	$5,850	$3,750	$6,750	$25,000	$8,750	$7,000	$5,850	$3,750	$6,750	$25,000	$8,750	$114,200

THE FOLLOWING TABLE SHOWS THE NUMBER OF APPLICATIONS MADE FOR WATER SERVICES ANNUALLY FROM 1869 TO DATE.

Year.	High Service.	Low Service.	Total.
1869		34	
1870		321	
1871		250	
1872		164	
1873		131	
1874		153	
1875		95	
1876		85	
1877		67	
1878		50	
1879		180	
1880		167	
1881		164	
1882		264	
1883		301	2426
1884	164	336	500
1885	644	365	1009
1886	639	369	1008
1887	747	325	1072
1888	812	406	1218
1889	1327	491	1818
1890	1071	336	1407
1891	811	264	1075
1892	674	207	881
1893	474	151	625
Balance	7360	5679	13039

PUMPING PLANTS.

EXPENSE MAINTAINING THE FOUR (4) PUMPING STATIONS AND RESERVOIRS.

Station.	Salaries.	Fuel.	Waste and Machine Oil.	Repairs	Kerosene Oil.	Total.
McCarron Lake Station	$3,593.00	$5,413.30	$ 279 56	$329.46		$9,615.32
Baldwin Lake Station	1,145.66	778.42	45.18	363.99	$10.35	2,343.60
Vadnais Lake Station	600.00			21.35		621.35
West St. Paul Station	1,237 75	589.03	29.72	23.50	15.10	1,895.70
Reservoir	405.00					405.00
Total	$6,981.41	$6,781.35	$354.46	$738.30	$25.45	$14,880.97

SHOWING THE DIFFERENT KINDS AND SIZES OF METERS BELONGING TO THE CITY AND PRIVATE PARTIES IN SERVICE AND ON HAND ON DEC. 1, 1893.

Kind of Meter.	Sizes in Inches	Property of City.			Private Property.			Grand Total of Meters in Service.	Grand Total of Meters in Shop.	Grand Total of all Meters.
		In Service	At Work Shop.	Total.	In Service	At Work Shop.	Total.			
Worthington improved	4	.....	.....	.....	2	.....	2	2	.....	2
Worthington improved	3	.....	.....	.....	4	.....	4	4	.....	4
Worthington improved	2	2	.....	2	4	.....	4	6	.....	6
Worthington improved	1½	36	4	40	5	.....	5	41	4	45
Worthington improved	1	31	1	32	2	.....	2	33	1	34
Worthington improved	¾	112	3	115	3	.....	3	115	3	118
Worthington improved	⅝	87	.....	87	16	.....	16	103	.....	103
Worthington improved	½	1	.....	1	.....	.....	.....	1	.....	1
Worthington old style.	3	.....	3	3	.....	.....	.....	.....	3	3
Worthington old style.	2	2	.....	2	.....	.....	.....	2	.....	2
Worthington old style.	1½	9	1	10	.....	.....	.....	9	1	10
Worthington old style.	1	8	1	9	.....	.....	.....	8	1	9
Worthington old style.	¾	17	.....	17	.....	.....	.....	17	.....	17
Worthington old style.	⅝	4	.....	4	.....	.....	.....	4	.....	4
Union rotary	1½	7	4	11	1	.....	1	8	4	12
Union rotary	1	14	.....	14	.....	.....	.....	14	.....	14
Union rotary.	¾	18	.....	18	.....	.....	.....	18	.....	18
Union rotary	⅝	14	3	17	.....	.....	.....	14	3	17
Union piston	1½	1	.....	1	.....	.....	.....	1	.....	1
Union piston	1	2	.....	2	.....	.....	.....	2	.....	2
Union piston	¾	2	.....	2	.....	.....	.....	2	.....	2
Union piston	⅝	1	.....	1	.....	.....	.....	1	.....	1
Nash	¾	2	1	3	.....	.....	.....	2	1	3
Nash	⅝	4	.....	4	.....	.....	.....	4	.....	4
Crown	4	1	.....	1	.....	.....	.....	1	.....	1
Crown	3	1	.....	1	.....	.....	.....	1	.....	1
Crown	2	6	.....	6	1	.....	1	7	.....	7
Crown	1½	27	3	30	.....	.....	.....	27	3	30
Crown	1	11	4	15	.....	.....	.....	11	4	15
Crown	¾	4	.....	4	.....	.....	.....	4	.....	4
Crown	⅝	11	9	20	2	.....	2	13	9	32
Crown	⅜	.....	1	1	.....	.....	.....	.....	1	1
Empire	4	1	.....	1	.....	.....	.....	1	.....	1
Empire	2	9	1	10	.....	.....	.....	9	1	10
Empire	1	31	1	32	.....	.....	.....	31	1	32
Empire	¾	45	.....	45	.....	.....	.....	45	.....	45
Empire	⅝	19	1	20	.....	.....	.....	19	1	20
Empire	½	15	.....	15	.....	.....	.....	15	.....	15
Gem	4	.....	.....	.....	1	.....	1	1	.....	1
Gem	2	.....	1	1	.....	.....	.....	.....	1	1
Thompson "B"	¾	5	.....	5	.....	.....	.....	5	.....	5
Thompson "B"	⅝	6	6	12	.....	.....	.....	6	6	12
Thompson	1	2	.....	2	.....	.....	.....	2	.....	2
Thompson	¾	7	.....	7	.....	.....	.....	7	.....	7
Thompson	⅝	19	.....	19	1	.....	1	20	.....	20
Hersey	3	1	.....	1	.....	.....	.....	1	.....	1
Hersey	2	9	.....	9	.....	.....	.....	9	.....	9
Hersey	1½	17	.....	17	.....	.....	.....	17	.....	17
Hersey	1	20	.....	20	.....	.....	.....	20	.....	20
Hersey	¾	19	.....	19	.....	.....	.....	19	.....	19
Hersey	⅝	10	2	12	.....	.....	.....	10	2	12
Frost	¾	1	.....	1	.....	.....	.....	1	.....	1
Sport	⅝	.....	1	1	.....	.....	.....	.....	1	1
Total	.....	671	51	722	42	.....	42	713	51	764

LIST OF VOUCHERS—Continued.

JANUARY, 1893.

No. of Voucher	Name.	Claim.	Amount.
5882	John Caulfield, secretary	Pay roll for December 1892	$3,984.23
5883	Conrad W. Miller, city treasurer	Interest due Jan. 2, 1893	5,850.00
5884	John Martin Lumber Co.	Lumber	8.73
5885	Farwell, Ozmun, Kirk & Co.	Tools	22.03
5886	Die Volkszeitung	Advertising	2.50
5887	P. N. Lindquist	Horseshoeing	9.50
5888	Fielding & Shepley	Relaying paving	16.44
5889	W E Magraw	Daily Globe, Nov. 1, '92 to Feb. 1, '93	2.55
5890	The Eschelman Shoeing Co.	Horse shoeing	2.50
5891	Taylor Craig Corp	Carpenter work	13.05
5892	P H Kelly Mercantile Co.	Oil, etc.	15.70
5893	J. G. Duggan	Sharpening tools, etc	41.95
5894	Pioneer Fuel Co.	Estimate No. 2, Fuel	261.19
5895	D. Ramaley & Son	Job printing	52.00
5896	Prendergast Bros.	Smoke stack, etc	10.00
5897	Tierney & Co.	Corn	5 70
5898	Donaldson, Ogden & Co.	Lantern globes	.75
5899	Scribner, Libbey Co.	Grinding down spring	.75
5900	Brown, Treacy & Co.	Stationery	3.10
5901	Rogers & Ordway	Jute Packing	5.00
5902	Geo. Dougher	Feed	74.87
5903	H. P. Rugg & Co.	Pipe and fittings	7.10
5004	Standard Oil Co.	Oil	46.22
5905	Henry Jagoe	Oats	74.06
5906	Meyers & Co.	Clock for West Side pump house	4.25
5907	Jas. Gilfillan	Rent of storage lot	12,50
5908	Herchmer Johnston, Attorney for John Lundstrom	Damages from overflow	50.00
5909	C. Collins	Sharpening tools	2.85
5910	Justus Kahlert	Work on Baldwin Lake pumps	5.25
5911	Robert Wellisch	Repair valves	7.97
5912	Richard Price	Prof. veterinary services	1 50
5913	John Caulfield, secretary	Cash advanced postage, etc	31.68
5914	Conrad W. Miller, city treasurer	Interest due February 1, 1893	3,750.00
5915	First Natl. Bank	Note of Oct. 27, 1893 and interest	10,146.67
	Total		$24,523.48

LIST OF VOUCHERS—Continued.

MARCH, 1893.

No. of Voucher	Name.	Claim.	Amount.
5949	John Caulfield, secretary	Pay roll for February, 1893	$3,656.98
5950	Conrad W. Miller, city treasurer	Interest due March 1, 1893	6,750.00
5951	Jos. Konshier	Wood for Baldwin lake	26.13
5952	Rudolph Miller	Wood for Baldwin lake	126.88
5953	Johnson Bros. & Loomis	One wardrobe for office	75.00
5954	Northwestern Stamp Works	New die for stamp	1.25
5955	The Buckeye Electric Co	40 C. P. lamps	18.00
5956	D. L. Bell	3 bbls L. cement	3.75
5957	P. N. Lindquist	Horseshoeing	1.00
5958	C. Thomas	Framing sheets, orders	1.50
5959	Chas. Friend & Son	Harness fittings	2.75
5960	Mitsch Wagon & Carriage Co	Repair and painting buggies	66.50
5961	Jno. Rogers, Jr., & Bro	Insurance	10.00
5962	P. H. Kelly Mercantile Co	Oil, etc	16.20
5963	Adam Decker & Co	Wrought Nails	.50
5964	P. N. Lindquist	Horseshoeing	4.50
5965	The Eschelman Shoeing Co	Horseshoeing	1.75
5966	The Dispatch Printing Co	Advertising	6.04
5967	H. P. Rugg & Co	Pipe fittings, etc	9.65
5968	J. G. Duggan	Sharpening tools	48.50
5969	Donaldson, Ogden & Co	Feather duster, etc	1.03
5970	Northwestern Telephone Exch Co	Office telephone, Jan., Feb. and Mch	9.00
5971	St. Paul Rubber Co	Steam hose	15.00
5972	Northwestern Hardware Co	Pat. door spring office	3.80
5973	Geo. A. Dougher	Feed	6.23
5974	Jas. Gilfillan	Rent of storage lot	12.50
5975	Quinby & Abbott	Repairing stool	.90
5976	Pioneer Press Co	Blank books and printing	26.25
5977	Farwell, Ozmun, Kirk & Co	Powder, fuse and tools	7.45
5978	D. Ramaley & Son	Job printing	16.25
5979	Robinson & Cary Co	Est. No. 2, boiler and engine	362.78
5980	Robinson & Cary Co	Pipe and fittings	47.96
5981	The Western Supply Co	Pipe and pipe fittings	24.41
5982	Brown, Treacy & Co	Scratch blocks and stationery	4.15
5983	Pioneer Fuel Co	Est. No. 4 fuel	157.82
5984	John Caulfield, secretary	Postage, gas bill and front tax	44.12
5985	N. W. Shot and Lead Works	2 coils 1 inch lead pipe	18.86
5986	Fairbanks, Morse & Co	Est. No. 2 and final water tower	390.00
5987	W. C. Smith, county assessor	Making up frontage tax	1,000.00
5988	Conrad W. Miller, City Treasurer	Interest due April 1, 1893	25,000.00
	Total		$37,977.39

LIST OF VOUCHERS—Continued.

MAY, 1893.

No. of Voucher	Name.	Claim.	Amount.
6034	John Caulfield, secretary	Pay roll for April	$4,642.20
6035	Union Water Meter Co. (Worcester, Mass.)	Meter	234 00
6036	Brooks Bros. (Union Park)	Lumber	13.85
6037	J M Rossell	Awnings for office	20.25
6038	DeCou & Co	Door mat, pump house	1.25
6039	Chas. Weinhagen & Co.	Strawboard for meters	1.00
6040	Geo. A. Dougher	Feed	1 56
6041	Henry Bucher, Jr	Board of men on flume	27.75
6042	Robinson & Cary Co.	Pipe fittings	7.87
6043	R. D. Wood & Co. (Phila. Pa.)	Est. No. 1 and final, hydrants	875.00
6044	R. D. Wood & Co. (Phila. Pa.)	Est. No. 1, valves	193.50
6045	Dennis Long & Co. (Louisville, Ky.)	Est. No. 1 pipe specials	12,665.57
6046	The Esbelman Shoeing Co.	Horseshoeing	1.50
6047	Prince & Shandrew	Insurance on office	30.00
6048	Henry Bucher, Jr	Wood, Baldwin lake	38.84
6049	P. H. Kelly Mercantile Co.	Oil, etc	69.97
6050	J. G. Duggan	Sharpening tools, etc	31.10
6051	D L. Bell	Cement	36.40
6052	H. P. Rugg & Co.	Pipe and fittings	259.67
6053	P. N. Lindquist	Horseshoeing	5.25
6054	Pioneer Press Co.	Job printing, etc	14.00
6055	Taylor-Craig Corporation	Hydrant boxes, etc	35.35
6056	Robinson & Cary Co.	Tools, etc	124.69
6057	Jas. Gilfillan	Rent of storage lot	12 50
6058	Peter Sandin	Sharpening tools	4.75
6059	Farwell, Ozmun, Kirk & Co.	Powder, fuse and tools	42.54
6060	Allen & Co.	Livery	9.00
6061	Nick Feyen	Est. No. 1, drayage	283.20
6062	Robert W. Hunt & Co. (Chicago Ill)	Inspecting pipe at foundry	138 64
6063	The Western Supply Co	Brass goods	3.86
6064	St. Paul Brass Works Co.	Repairs	15.46
6065	Chas. Friend & Son	Harness fittings	5.55
6066	Tierney & Co.	Feed	.69
6067	The Crane Ordway Co.	Solder pot	.40
6068	Robert Seeger	Gasoline	1.00
6069	N. W. Wheel and Foundry Co	Est. No. 1, fire hydrants	525.00
6070	N. W. Wheel and Foundry Co.	Est. No. 1, special castings	61.63
6071	The Dispatch Printing Co.	Advertising	5.06
	Total		$20,439.85

LIST OF VOUCHERS—Continued.

JULY, 1893.

No. of Voucher	Name.	Claim.	Amount.
6127	John Caulfield, secretary	Pay roll for June, 1893	$10,021.07
6128	Pioneer Fuel Co	Est. No. 7, fuel	19.50
6129	H. P. Rugg & Co	Pipe, etc	5.83
6130	P. N. Lindquist	Horseshoeing	10.75
6131	J. G. Duggan	Blacksmithing	45.65
6132	Gribben Lumber Co	Lumber	31.80
6133	American Chemical Co	Soap	2.00
6134	Martin Feist	Lunch for men, cleaning conduit	4.00
6135	Vacuum Oil Co	Oil	34.78
6136	Prendergast Bros	Smoke stacks, etc	16 80
6137	W. E. Magraw	Daily Globe to Aug. 1, '93	2.55
6138	Jno. A. Tierney & Co	Void, cancelled, see warrant 6157	
6139	Taylor-Craig corporation	Repairing door, etc	10.00
6140	D. Ramaley & Son	Job printing	23 75
6141	P. H. Kelly Mercantile Co	Oil, candles, etc	32.25
6142	Hersey Meter Co. (S. Boston, Mass.)	Meters	414.06
6143	Thomson Meter Co. (Brooklyn, N.Y.)	Meter	196.60
6144	National Meter Co (New York, N.Y.)	Meter fixtures	2.50
6145	Bingham & Taylor (Buffalo, N. Y.)	Valve boxes, etc.	949.00
6146	Dennis Long & Co. (Louisville, Ky.)	Pipe, etc	2,280.21
6147	N. Feyen	Drayage, Est. No. 3	79.72
6148	Martin Moffat	Blacksmithing	5.05
6149	C. Collins	Blacksmithing	12.50
6150	Jas. Gilfillan	Rent of storage lot	37.50
6151	The A. D. Smith Co	Screen doors, McCarron lake	23.75
6152	Farwell, Ozmun, Kirk & Co	Tools	34 67
6153	Robinson & Cary Co	Hose, tools, etc	53.20
6154	Robert W. Hunt & Co. (Chicgao, Ill.)	Inspecting pipe at foundry	88.53
	Thos. Reilly	Relaying pavement	252.98
6155	J. S. Sewall	Professional services	100.00
6156	Jno. A. Tierney & Co	Feed, (issued in place of warrant No. 6138	80.68
6157	Jno. Rogers, Jr. & Bro	Insurance	30.00
6158	Board of Fire Commissioners	200 ft of hose	40.00
6159	N. W. Copper and Brass Works	Repairs	3.75
6160	Robert W. Hunt & Co. (Chicago, Ill.)	Inspecting pipe at foundry	28.06
6161	Michigan Brass and Iron Works, (Detroit, Mich.)	Drip Valves	100.00
6162	Donaldson, Ogden & Co	Ice cooler, etc	.90
6163	Geo. J. Mitsch	Supplies	19.00
6164	Eshelman & Iten	Horseshoeing	2.00
6165	Adam Decker & Co	Tools	1.36
6166	Chas. Friend & Son	Harness fittings	1.00
6167	N. W. Wheel & Foundry Co	Est. No. 3, fire hydrants	385.00
6168	N. W. Wheel and Foundry Co	Est. No. 2, special castings	41.98
6169	N. W. Wheel and Foundry Co	Est. No. 4, fire hydrants	280.00
6170	Conrad W. Miller, city treasurer	Interest due Aug. 1, 1893	3,750.00
6171	Union Brass and Metal Mfg Co	Repairs pump, Baldwin lake	16.50
6172	Brown, Treacy & Co	Job printing	14.40
6173	Robert Seeger	Gasoline	1.70
6174	John Lindquist	Est. No. 1 and final sewer	299.13
6175	John Caulfield, secretary	Bills paid, freight, postage, etc	40.00
6176	Crane & Ordway Co	Pipe fittings	1.30
6177	Crane & Ordway Co	Est, No. 1, brass goods	192.52
6178			
	Total		$20,028.36

LIST OF VOUCHERS—Continued.

SEPTEMBER, [illegible]

No. of Voucher	Name	Claim	Amount
[illegible]	[illegible]	Pay roll for August, [illegible]	[illegible]
[illegible]	National Meter [illegible]	Meter fittings	[illegible]
[illegible]	[illegible]	Printing	[illegible]
[illegible]	[illegible] Lead Works	Estimate No. [illegible] and final, [illegible]	[illegible]
[illegible]	[illegible] & Sons	[illegible]	[illegible]
[illegible]	[illegible]	Sharpening tools, etc.	[illegible]
[illegible]	Pioneer Press [illegible]	Advertising	4.50
[illegible]	National Meter [illegible]	Meters	[illegible]
[illegible]	Union Water Meter [illegible]	Meter fittings	[illegible]
[illegible]	[illegible]	Supplies for pump station	[illegible]
[illegible]	Pioneer [illegible]	Estimate No. [illegible]	[illegible]
[illegible]	[illegible] Lumber [illegible]	Lumber	[illegible]
[illegible]	[illegible]	[illegible] printing	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible] & Son	[illegible]	1.25
[illegible]	[illegible]	Lumber	[illegible]
[illegible]	[illegible]	Pipe fittings	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Amount paid [illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Pipe and fittings	[illegible]
[illegible]	[illegible]	[illegible] pavement	[illegible]
[illegible]	Chester Park Line	[illegible]	[illegible]
[illegible]	Pioneer Press [illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible] sundries	[illegible]
[illegible]	[illegible]	Printing	[illegible]
[illegible]	[illegible]	Advertising	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Rent of [illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Sharpening tools	4.00
[illegible]	[illegible]	[illegible], etc.	[illegible]
[illegible]	[illegible] & Son	[illegible]	[illegible]
[illegible]	[illegible]	Horseshoeing	7.50
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	Horseshoeing	1.50
[illegible]	[illegible]	Stationery	[illegible]
[illegible]	[illegible]	Condemned hose	[illegible]
[illegible]	[illegible]	Lumber	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible] drainage, etc.	[illegible]
[illegible]	[illegible]	[illegible], etc.	[illegible]
[illegible]	[illegible]	Lumber	[illegible]
[illegible]	[illegible]	Cash advanced for sundries	[illegible]
	Total		[illegible]

LIST OF VOUCHERS—Continued.

NOVEMBER, 1893.

No. of Voucher	Name.	Claim.	Amount.
6306	John Caulfield, secretary,	Pay roll for October, 1893	$3,747.25
6307	Dennis Long & Co	Estimate No. 4	408.98
6308	Thomson Meter Co	Meters	36.70
6309	Jno. Rogers Jr. & Bro	Insurance	150.00
6310	DeCou & Co	Screen for Baldwin Lake	15.67
6311	Martin Feist	Lunch for men cleaning conduit	4.00
6312	Union Brass & Metal Mnfg Co	Brass springs, etc. Bald Lake pump station	239.90
6313	F. W. Luley & Son	Tallow	2.60
6314	Peoples' Ice Co	Ice for office	5.25
6315	W. E. Magraw	Daily Globe, Aug. 1, to Nov. 1, 1893	2.50
6316	Thos. Reilly	Relaying pavement	31.40
6317	Chas. Friend & Son	Harness fittings	1.90
6318	P. N. Lindquist	Horse shoeing	7.50
6319	Jno. Hughes	Board of carpenters	9.60
6320	Prendergast Bros	Repairing roof pump house, McCarron Lake	51.53
6321	J. G. Duggan	Sharpening tools	12.10
6322	Jno. Dowlan & Sons	Rent of engine	9.75
6323	Jas. Gilfillan	Rent of storage lot	25.00
6324	Allen & Co	Livery	15.60
6325	Eshelman & Iten	Horse shoeing	2.00
6326	Nicols & Dean	R. R. spikes	.52
6327	Farwell, Ozmun, Kirk & Co	Nails	10.95
6328	Donaldson, Ogden & Co	Lantern fixtures	.44
6329	J. W. Makinson	Carpenter work	45.60
6330	H. P. Rugg & Co	Pipe, etc	13.85
6331	Jno. Martin Lumber Co	Lumber for Weirs, etc	165.32
6332	St. Croix Lumber Co	Lumber for meter boxes	7.10
6333	Mitsch Wagon & Carriage Co	Repairing buggy	7.25
6334	St. Paul Roofing & Cornice Co	Strainer for suction pipe	35.00
6335	P. H. Kelly Mercantile Co	Oil	28.13
6336	R. B. Whitacre	Pipe, fitttings, rope, etc	28.20
6337	Robinson & Cary Co	Valves, pipe fittings, etc	36.22
6338	C. W. Hackett Hardware Co	Bush scythes, etc	1.97
6339	The Crane Ordway Co	Lead pipe, etc	29.55
6340	Brown, Treacy & Co	Printing and stationery	24.90
6541	D. L. Bell	Fire brick and lime	8.80
6342	E. L. Booth	Estimate No. 2, fuel	13.70
6343	Tierney & Co	Bran for stable	1.14
6344	Henry Bodmann	Repairing slate roof at McCarron Lake station	20.00
6345	Pioneer Press Co	1,000 street opening blanks	2.50
6346	Peter Sandin	Sharpening tools	3.30
6347	George J. Mitsch & Co	Supplies	3.25
6348	Jno. Caulfield, secretary	Postage, gas, and freight bills, etc	42.25
6349	N. W. Wheel & Foundry Co	Hydrant casings, etc	94.47
6350	Conrad W. Miller, City Treasurer	For sinking fund	10,000.00
6351	Pioneer Fuel Co	Estimate No. 11 and final, fuel	970.82
6352	Conrad W. Miller, City Treasurer	For sinking fund account	10,000.00
	Total		$26,367.93
	Grand Total		$317,073.72

[illegible]

operated by the City, of the 1,968 hydrants in use, 211 have been more or less affected by frost, although 75 per cent of the latter have not been out of service.

This makes a favorable comparison with the experience of 1883-84, when although the mean temperature during the months of December, January and February lacked one degree of being as low as during the corresponding months of the past year, out of 236 hydrants in use, 122 were affected by frost. This year but 37of these original hydrants were affected, and taking also into consideration that this is the first severe winter which 1632 of the present hydrants have passed through, it would seem that the use of black peat soil about the hydrants has been with good results.

I believe, however, that one-half of these cases could be avoided at small cost, by providing a packed flanged joint in the stand pipe of the hydrant.

Of the 211 hydrants affected by frost, 101 have been protected by black dirt and saw dust laid above the hydrant valve in alternate courses of 6 inches in depth, nine have been moved away from catch-basins, in one case the main has been lowered, and in five cases area ways have been improved. In these are included all of the worse cases, and no further trouble from frost is anticipated from these thus repaired.

Fifteen hydrants of the 211 were affected by area-ways, nine by catch-basins, and in five the mains and hydrants were not placed at a proper depth.

There were 87 cases which showed frost once, 13 four times, 10 five times, 8 six times, 5 seven times, 5 eight times, 7 nine times, 2 ten times, 1 eleven times, 2 twelve times, 2 thirteen times and 1 nineteen times. A record of every hydrant has been kept showing the number of times it has been affected by frost for ten years past.

Valves and Repairs of Same.

There were sixty-three new valves placed this year, making a total of 1901 in use.

There have been fourteen leaks in stuffing boxes.

Sprinkling Stand Pipes.

There were twelve new sprinkling stand pipes placed this year, making a total of 246.

There have been twelve leaks in drip valves.

Repairs of Mains.

There have been sixteen leaks and breaks in mains the past year, one, it is supposed, caused by an internal tension resulting from unequaled contraction of the shell of the pipe in cooling off after casting (the fractured pipe has been in use six years under a pressure of 75 pounds to a square inch) six leaks in joints, three leaks caused by settling of sewer trench, two old splits, two in cement pipe caused by rust, one caused by frost, and one by pick hole made by employees of the City Railway Co. There have been four cases in which the mains have been frozen, one where the main was not laid the proper

I would again call your attention to the necessity of another supply main for the eastern portion of the city, and also of a 12 inch main on Washington street from Seventh to Chestnut streets, in place of the present 4 inch main.

Respectfully submitted,

J. B. OVERTON,
Superintendent.

PIPE LAID ON HIGH SERVICE DURING THE YEAR 1902.

DATE.	STREET	FROM STREET TO STREET.	4 Inch.	6 Inch.	12 Inch.
May 6	East 4th	East to Forrest		1230	
May 10	Chelton	Prior to Tatum		750	
May 16	Tatum	Minnehaha to Chelton		544	
May 16	Minnehaha	Tatum to Fairview			480
May 16	Capitol	At crossing of Fairview		4	
May 12	Dawson	Gotzian to Cypress		1164	
May 16	Fairview	Greenbrier to Weide		200	
May 16	Fairview	Charles to Capitol			2542
May 17	Grand	Syndicate to C. M. & St. Paul R. R.		437	
May 19	Weide	Arcade to 120 feet west of Weide		589	
May 20	Wells's side	From east to west end of retaining wall	1130		
May 23	Arlington	Greenbrier to Payne	650		
May 24	Greenbrier	Wells to Arlington	140		
May 24	Earl	At Dawson			18
May 26	University	Raymond to Cromwell			1183
May 30	Jenks	Arcade to Edgerton		2616	
May 31	Marshall	Prior to Cleveland			1304
June 2	Jessie	Jessamine to Maryland		992	
June 7	Maryland	DeSoto to Edgerton		1307	
June 9	Dayton	Oxford to Griggs		1978	
June 12	Argyle	Front to Hatch	370		
June 14	Como Boulevard	East line of lot 4, block 5, to north line of lot 5, block 1, Warrendale		666	
June 14	Horton	At Como Boulevard		25	
June 15	Dayton	At Cleveland		46	
June 21	Cleveland	Grand to Marshall			2015
June 21	McMenemy	Case to Jessamine			1652
June 21	Cook	170 ft. e. of Mississippi to Arkwright		1076	
June 21	Lawson	120 ft. e. of Mississippi to Arkwright		1122	
June 23	Jenks	McMenmey to DeSoto		1303	
June 26	Magnolia	120 ft. e. of Mississippi to Arkwright		1135	
June 29	Burr	Rose to Brainerd		893	
June 29	Greenbrier	Cook to Magnolia	332		
July 1	Poplar	N. P. Yard to Cortland		889	
July 6	Grand	Cleveland to Cretin		1300	
July 7	Rondo	Fairview to Laura		182	
July 11	Churchill	Front to N. P. R. R.	1103		
Aug 24	Marshall	Cleveland to 300 feet west of same			320
Sept 1	Wayzata	At Albemarle		90	
Sept 1	Albemarle	Atwater to Front	1293		
Nov 4	Magnolia	85 ft east of Forrest to Cypress		500	
			5018	22119	10503

Total 4 inch pipe 5018
Total 6 inch pipe 22119
Total 12 inch pipe 10503

37640 feet, or 7 miles 680 feet.

[illegible] FEET OF WATER MAINS LAID ON LOW [illegible] TO DECEMBER 1, 18[illegible]

Location	Street	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]		[illegible]						
	[illegible]		3[illegible]						
	[illegible]		[illegible]						
	[illegible]	[illegible]							
	[illegible]	22[illegible]							
	[illegible]		18						
	[illegible]		1[illegible]						
	[illegible]		[illegible]						
	[illegible]		1[illegible]						
	[illegible] to Ma[illegible]	4[illegible]	15						
	[illegible] University	4[illegible]	17		10[illegible]		1[illegible]		
	[illegible]		[illegible]						
	[illegible]		2[illegible]						
	[illegible]		[illegible]						
	[illegible]		[illegible]						
	[illegible] versity		2[illegible]						
	[illegible]		[illegible]	2[illegible]		[illegible]			
	[illegible] Washington		12						
	[illegible] Superior		1[illegible]						
	[illegible]		1[illegible]						
	[illegible] to Bedford		10						
	[illegible] to State				10[illegible]				
	[illegible]			64[illegible]					
	[illegible] Bancroft [illegible]	3[illegible]	64						
	Wabash [illegible] Robert		[illegible]						
	[illegible] Park		1[illegible]						
	[illegible]		[illegible]						
	[illegible] to Pennsylvania		[illegible]						
	[illegible]		[illegible]						
	[illegible]		4	15[illegible]					
	[illegible]		[illegible]						
	[illegible]		1[illegible]						
	[illegible]		[illegible]						
	[illegible]		2[illegible]						
	[illegible]		[illegible]						
	[illegible]		7						
	[illegible]		14[illegible]						
[illegible]	Wabash [illegible]	4[illegible]							
[illegible]	[illegible]		12						
[illegible]	[illegible]	4[illegible]							
[illegible]	Wabash [illegible]	3[illegible]							
[illegible]	[illegible] crossing				1[illegible]				
[illegible]	[illegible]		[illegible]						
	[illegible]		1[illegible]						
[illegible]	[illegible]	7							
	[illegible] Wabash		28						
[illegible]	[illegible]			1[illegible]					
[illegible]	[illegible]	4[illegible]	2[illegible]						
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]					[illegible]			
[illegible]	[illegible]		1[illegible]	[illegible]					
[illegible]	[illegible] Robert		1[illegible]						
[illegible]	[illegible]	[illegible]							
[illegible]	[illegible] St.		[illegible]						
[illegible]	[illegible]								
[illegible]	[illegible]		[illegible]						
[illegible]	[illegible]								
[illegible]	[illegible]		1[illegible]	1[illegible]					

[illegible]ERVICE—*Continued.*

[illegible]

WATER MAINS, HIGH SERVICE—*Continued.*

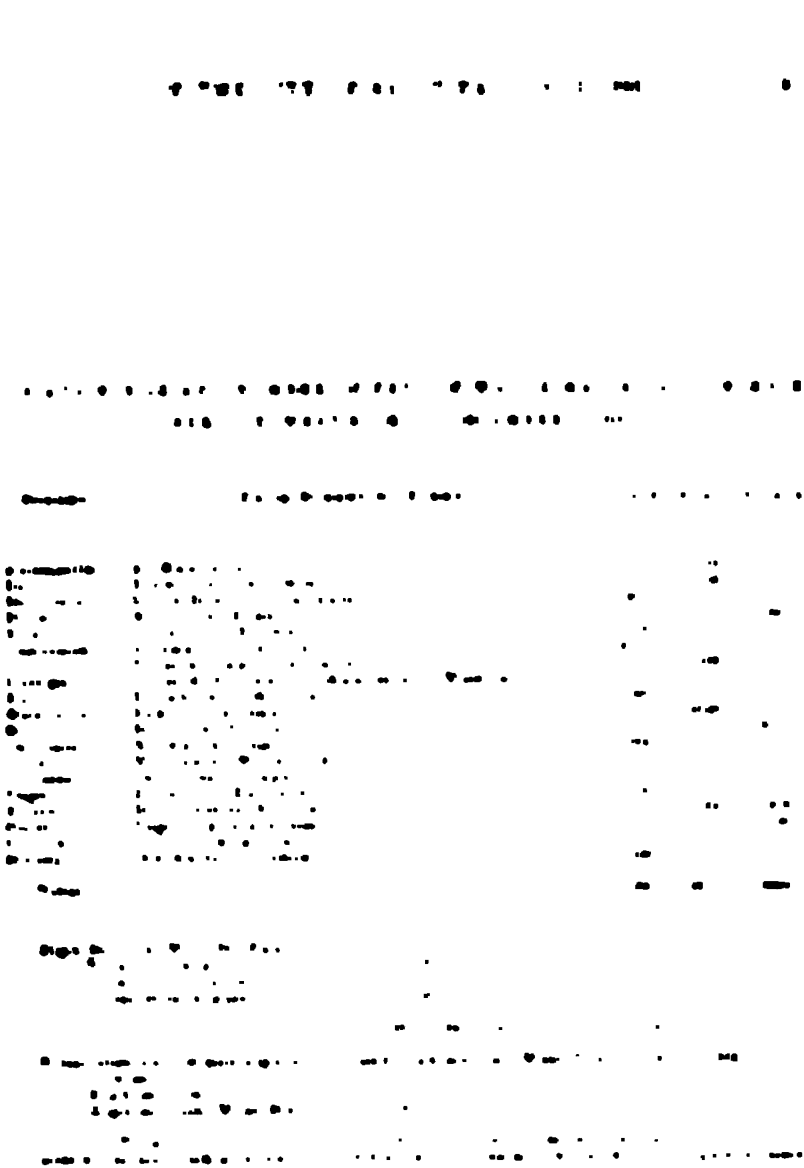
Street.	From Street to Street.	4 Inch.	6 Inch.	12 Inch.	16 Inch.	20 Inch.	24 Inch.	36 Inch.
De Soto	Whitall to Lawson		1921					
Dawson	Arcade to Gotzian		2958					
Dooley	County road to 15 ft e. of Raymond		1327					
Earl	Burns to Cook			3593	2291			
Edmund	Rice to Milton		8518					
Eichenwald	Sixth to Seventh		532					
Euclid	Maple to Earl		2391					
Elfelt	Charles to Blair	1034						
Edgerton	York to Rose			3952				
Everett c'rt	Wheeler to Gt. Northern Ry		355					
Evergreen	Victoria to Oxford		1234					
Farrington	Summit to Lafond		3459					
Fauquier	200 ft e. of Atlantic to Greenbrier		6153					
Fuller	Rice to 200 ft w. of Oxford		8092					
Fifth	125 ft e. of Hoffman to Maple		1543					
Floral	Grand to Summit	480						
Fourth	Earl to 400 ft w of Maria		4666					
Francis	Arcade to Cypress		1264					
Front	Sylvan to Lexington		1140	10499				
Forrest	Conway to Geranium		3113					
Fairmount	Dale to Victoria		2320	518				
Feronia	Fairview to Prior		1378					
Freemont	Earl to Arcade		2577					
Fairview av	St. Anthony to Capitol			2542	1670			
Fry	Territorial road to Capitol	1087						
Force Main	Pump house to reservoir					7840	70	
Flandreau	Harvester to Stillwater		595					
Grand	Lawton to Cretin		6931					
Grove	Seventh to Pine				2618			
Grotto	Lincoln to Lafond		4504					
Goodrich	782 ft e. of Dale to Oxford		5358					
Greenbrier	Seventh to Magnolia	512		650				
Gaultier	Sherburne to Cook		2689					
Gordon	Raymond to Carter		1387	693				
Geranium	Arcade to Edgerton		1303					
Genesee	Mississippi to Buffalo		814					
Granite	Mississippi to Cortland		1622					
Hoffman	Clermont to Seventh		2946					
Holly	Western to Victoria		5287					
Hague	Dale to Lexington		5181					
Hudson	Cypress to Maria		2389	194				
Hastings	Bates to Bester			3066				
Hewitt	Aldine to Syndicate		4541					
Hope	Fourth to Seventh		1156					
Hampden	Raymond to Hersey		1646					
Harvester	White Bear to Hazel			1306				
Hazel	Harvester to 300 ft n. of Ames			980				
Horton	Vanslyke to Como Boulevard		419					
Iglehart	Wabasha to Cleveland		14056					
Jackson	Viola to Sycamore		236	2237	145			
Jay	St. Anthony to Fuller		656					
Jenks	McMenemy to Arcade		3919					
Jessamine	Rice to Forrest		8186					
Jessie	Case to Maryland		2635					
Kent	Portland to Carroll	2201						
Kenwood pk	St. Albans around said Park		767					
Knapp	Langford P. P. E. to Langford avenue		975					
Keston	Dooley to Doswell		924					
Laura	Waltham to University		1211					
Laurel	Nina to Fisk		8297					
Lawton	Grand to Selby		480					
Lincoln	Oakland to Hamline		6610					
Louis	Nelson to Fuller		2122					
Linden	Mt. Airy to Arch		696					
Lafond	Rice to Milton		6978					

WATER MAINS, HIGH SERVICE—*Continued.*

Street.	From Street to Street.	4 Inch.	6 Inch.	12 Inch.	16 Inch.	20 Inch.	24 Inch.	36 Inch.
Ravine	Maple to 344 ft w. of Maria	1423						
Raymond	University to Langford ave.		3305		1588			
Robbins	Bayless to Raymond place		440					
Rose	Arcade to Edgerton		1497					
St. Anthony	Rice to Cleveland		13893					
St. Peter	College to University		2557					
Selby	Summit to Snelling		15218					
Seventh	Grove to White Bear ave				15025			
Sherburne	Jackson to Chatsworth	400	10470					
Sinnen	Sixth to Seventh		541					
Suction Main	Pump House to terminal						925	
Summit ave	C. P. D. E. to Macalester	913	4316	12728				
Summit pl	Nelson to Fuller		2122					
St. Albans	Pleasant to Martin	2215	300	556				
Sims	Forrest to Edgerton		3922					
Summit C.A	East of Lawton		362					
Short	Maria to Hoffman		591					
Snelling	Goodrich to G. N. Ry				11195			
Simpson	Capitol to Hewitt		887					
Sixth	Hoffman to Arcade		2646					
Sidney	Raymond to Bradford		610					
Scudder	Blake to Langford ave				1347			
St. Clair	Victoria to Oxford			1935				
Stinson	Gaultier to Western		1266					
Sycamore	Rice to Cortland			2509				
Syndicate	Lincoln to Summit		967					
Stillwater	White Bear to Ames		906					
Tatum	Minnehaha to Chelton		541					
Third	Cypress to Summit	367	4154					
Thirteenth	Pine to Broadway				778			
Tilton	Wabasha to Rice		1278					
Thomas	Como to Chatsworth		7605					
Topping	At Como and at Dale		118					
Taylor	Charlotte to Holton		2467					
Territorial Road	Raymond to Eustis		1498					
University	Broadway to Cromwell		40	6387	3594	19164		
Valley	Broadway to Jackson				1789			
Viola	Jackson to Rice		1653					
Victoria	St. Clair to Lafond				9518			
Virginia	Summit to Como	2432	1798					
Van Buren	Western to Wheeler		6485					
Van Slyke	Lexington to Argyle		1133					
Wabasha	Summit to Park avenue	537	842					
Western	Summit to Como			1775	6285			
Williams	Olive to Mississippi		857					
Waltham	Laura to Prior	959						
Wayzata	At Albemarle		90					
Wilder	Iglehart to St. Anthony		1388					
Whitall	Payne to Clark		2301					
Walker	Hewitt to Gt. Northern Ry	807						
Wesley	Pascal to Fry	394	621					
Workhouse	Extension w. of Lexington		687					
Wheeler st	Bayless to Eustis Court			1012				
Westminst'r	Lookout Place to Case		384					
Wheeler ave	University to Shields		588					
Woodbridge	Atwater to Front		1297					
Winnipeg	Rice to Sylvan		1142					
Wells	Edgerton to Arcade		1804					
Wells s side	From E. to W. end of retaining wall	1130						
White Bear	Seventh to Ames			1992				
York	Forrest to Cortland		5782					
Total		35703	498654	114426	86215	36166	15477	1560

High Service—Total 4 inch pipe 35,703
Total 6 inch pipe 498,654
Total 12 inch pipe 114,426
Total 16 inch pipe 86,215
Total 20 inch pipe 36,166
Total 24 inch pipe 15,477
Total 36 inch pipe 1,560

788,201 feet or 149 miles 1,481 feet.



[illegible]

[illegible]

No.	Location	Traffic	Number of Signal Phases	Time of Yellow Period	Time of Red Period
1	[illegible]	[illegible]	Single	4	4
2	[illegible]	[illegible]	Single	4	4
3	[illegible]	[illegible]	Single	4	3
4	[illegible]	[illegible]	Single	4	3
5	[illegible]	[illegible]	Single	4	4
6	[illegible]	[illegible]	Single	4	3
7	[illegible]	[illegible]	Single	4	3
8	[illegible]	[illegible]	Single	4	4
9	[illegible]	[illegible]	Single	4	3
10	[illegible]	[illegible]	Single	3	4
11	[illegible]	[illegible]	Single	4	4
12	[illegible]	[illegible]	Single	4	4
13	[illegible]	[illegible]	Single	4	4
14	[illegible]	[illegible]	Single	3	4
15	[illegible]	[illegible]	Single	4	3
16	[illegible]	[illegible]	Single	4	3
17	[illegible]	[illegible]	Single	4	3
18	[illegible]	[illegible]	Single	4	3
19	[illegible]	[illegible]	Single	4	3
20	[illegible]	[illegible]	Single	4	3
21	[illegible]	[illegible]	Single	4	3
22	[illegible]	[illegible]	Single	4	3
23	[illegible]	[illegible]	Single	4	3
24	[illegible]	[illegible]	Single	4	3
25	[illegible]	[illegible]	Single	4	3
26	[illegible]	[illegible]	Single	4	3
27	[illegible]	[illegible]	Single	4	3
28	[illegible]	[illegible]	Single	4	3
29	[illegible]	[illegible]	Single	4	3
30	[illegible]	[illegible]	Single	4	3
31	[illegible]	[illegible]	Single	4	3
32	[illegible]	[illegible]	Single	4	3
33	[illegible]	[illegible]	Single	4	3
34	[illegible]	[illegible]	Single	4	3
35	[illegible]	[illegible]	Single	4	3
36	[illegible]	[illegible]	Single	4	3
37	[illegible]	[illegible]	Single	4	3
38	[illegible]	[illegible]	Single	4	3
39	[illegible]	[illegible]	Single	4	3
40	[illegible]	[illegible]	Single	4	3
41	[illegible]	[illegible]	Single	4	3
42	[illegible]	[illegible]	Single	4	3
43	[illegible]	[illegible]	Single	4	3
44	[illegible]	[illegible]	Single	4	3
45	[illegible]	[illegible]	Single	4	3
46	[illegible]	[illegible]	Single	4	3
47	[illegible]	[illegible]	Single	4	3
48	[illegible]	[illegible]	Single	4	3
49	[illegible]	[illegible]	Single	4	3
50	[illegible]	[illegible]	Single	4	3
51	[illegible]	[illegible]	Double	12	43
52	[illegible]	[illegible]	Single	6	43
53	[illegible]	[illegible]	Single	6	40
54	[illegible]	[illegible]	Single	6	37
55	[illegible]	[illegible]	Single	6	38
56	[illegible]	[illegible]	Single	6	31
57	[illegible]	[illegible]	Single	6	28
58	[illegible]	[illegible]	Single	6	71
59	[illegible]	[illegible]	Single	4	39
60	[illegible]	[illegible]	Single	4	42
61	[illegible]	[illegible]	Single	6	37
62	[illegible]	[illegible]	Double	20	41
63	[illegible]	[illegible]	Single	6	38
64	[illegible]	[illegible]	Single	20	34
65	[illegible]	[illegible]	Single	12	34
66	[illegible]	[illegible]	Single	12	34
67	[illegible]	[illegible]	Single	12	33
68	[illegible]	[illegible]	Single	12	32
69	[illegible]	[illegible]	Single	12	33
70	[illegible]	[illegible]	Single	12	34
71	[illegible]	[illegible]	Single	16	35
72	[illegible]	[illegible]	Single	12	41
73	[illegible]	[illegible]	Single	16	44
74	[illegible]	[illegible]	Double	16	45
75	[illegible]	[illegible]	Double	12	45
76	[illegible]	[illegible]	Double	16	45
77	[illegible]	[illegible]	Double	16	44

LIST OF HYDRANTS—Continued.

Location	Service	Double or Single Steamers	Size of Pipe	Pressure at Hydrant
[illegible] n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] between Third and Chestnut	Low	Single	[illegible]	[illegible]
[illegible] and Tenth	Low	Single	[illegible]	[illegible]
[illegible] s. w. cor	Low	Single	[illegible]	[illegible]
[illegible] s. w. cor	Low	Single	[illegible]	[illegible]
[illegible] s. w. cor	Low	Single	[illegible]	[illegible]
[illegible] Sixteenth s. w. cor	Low	Single	[illegible]	[illegible]
[illegible] between Canada and Tennessee [illegible]	Low	Single	[illegible]	[illegible]
[illegible] and Temperance	Low	Single	[illegible]	[illegible]
[illegible] Mt. Airy n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] Glencoe n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] between Glencoe and Pennsylvania [illegible]	Low	Single	[illegible]	[illegible]
[illegible] and Pennsylvania n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] s. w. cor	Low	Single	[illegible]	[illegible]
[illegible] n. e. cor	Low	Single	[illegible]	[illegible]
[illegible] Olive n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] n. e. cor	Low	Single	[illegible]	[illegible]
[illegible] n. e. cor	Low	Single	[illegible]	[illegible]
[illegible] and [illegible] s. w. cor	Low	Single	[illegible]	[illegible]
[illegible] Tenth n. e. cor	Low	Single	[illegible]	[illegible]
[illegible] and [illegible] s. w. cor	Low	Single	[illegible]	[illegible]
[illegible] and [illegible]	Low	Single	[illegible]	[illegible]
[illegible] and Wacouta	Low	Single	[illegible]	[illegible]
[illegible] and [illegible]	Low	Single	[illegible]	[illegible]
[illegible] between St. Peter and Tenth	Low	Single	[illegible]	[illegible]
[illegible] and Wacouta n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] s. w. cor	Low	Single	[illegible]	[illegible]
[illegible] and Smith ave. n. e. cor	Low	Single	[illegible]	[illegible]
[illegible] n. w. [illegible]	Low	Single	[illegible]	[illegible]
[illegible] feet south of Third	Low	Single	[illegible]	[illegible]
[illegible] and Broadway n. e. cor	Low	Double	12	[illegible]
[illegible] and Rosabel n. w. cor	Low	Double	12	[illegible]
[illegible] and Wacouta n. w. cor	Low	Double	12	[illegible]
[illegible] s. w. cor	High	Single	[illegible]	[illegible]
[illegible] and Maria n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] and [illegible] n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] n. w. cor	Low	Single	[illegible]	21
[illegible] n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] n. w. cor	Low	Single	[illegible]	[illegible]
[illegible]	Low	Single	[illegible]	[illegible]
[illegible] n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] between [illegible] and Jackson	Low	Single	[illegible]	[illegible]
[illegible]	Low	Single	[illegible]	[illegible]
[illegible] and Broadway n. w. cor	Low	Single	[illegible]	[illegible]
[illegible] s. w. cor	Low	Single	[illegible]	[illegible]
[illegible]	Low	Single	[illegible]	[illegible]
[illegible]	Low	Single	[illegible]	[illegible]
[illegible]	Low	Single	[illegible]	[illegible]
[illegible]	Low	Single	[illegible]	[illegible]
[illegible]	Low	Single	[illegible]	[illegible]
[illegible] and Jackson n. w. cor	Low	Single	[illegible]	51
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	12	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]
[illegible]	[illegible]	Single	[illegible]	[illegible]

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steamer.	Size of Pipe	Pressure at Hydrant.
274	Ingleheart and Western, n. w. cor.	High	Single.	6	36
275	Marshall and Western, n. w. cor.	High	Single.	6	32
276	Dayton and Western, n. e. cor	High	Single.	12	31
277	Western and Selby, n. w. cor.	High	Single.	12	32
278	Western and Laurel, n. w cor	High	Single.	12	31
279	Western and Ashland, n. w. cor	High	Single.	12	33
280	Western and Holly, n. w. cor	High	Single	12	34
281	Western and Portland, n. w. cor	High	Single.	12	34
282	Summit and Portland	High	Single.	12	34
283	Summit and Arundel, n. e. cor	High	Single.	12	31
284	Summit and Mackubin, n. e. cor	High	Single.	12	30
285	Summit and Kent, n. e. cor	High	Single.	12	36
286	Summit and Oakland	High	Single.	12	35
287	Holly and Dale, n. e. cor	High	Single.	6	36
288	Holly and Kent, n. e. cor	High	Single.	6	34
289	Holly and Mackubin, n e. cor	High	Single.	6	33
290	Holly and Arundel, n. e. cor	High	Single.	6	33
291	Ashland and Arundel, n. e. cor	High	Single.	6	33
292	Ashland and Mackubin, n. e. cor	High	Single.	6	30
293	Ashland and Kent, n. e. cor	High	Single.	6	33
294	Ashland and Dale, n. e. cor	High	Single.	6	37
295	Laurel and Dale, n. e. cor	High	Single.	6	35
296	Laurel and Kent, n. e. cor	High	Single.	6	31
297	Laurel and Mackubin, n. w. cor.	High	Single.	6	30
298	Laurel and Arundel, n. e. cor	High	Single.	6	30
299	Dayton and Dale, n. e. cor	High	Single.	12	30
300	Dayton and Kent, n. e. cor	High	Single.	12	28
301	Dayton and Mackubin, n. e. cor	High	Single.	12	29
302	Dayton and Arundel, n. e. cor	High	Single	12	33
303	Dayton and Virginia, n. e. cor	High	Single.	12	30
304	Dayton and Farrington, n e. cor	High	Single	12	30
305	Dayton between Summit and Farrington.	High	Single.	12	31
306	Summit and Dayton, s. w. cor	High	Single.	6	43
307	Summit and Selby, s. w. cor	High	Single.	6	37
308	Summit, head of Walnut	High	Single	6	37
309	Summit and Nina, n. w. cor	High	Single.	6	33
310	Summit and Farrington, n w. cor	High	Single.	6	31
311	Summit and Virginia, n. w. cor	High	Single.	6	33
312	Farrington and Laurel, n. w. cor.	High	Single.	6	32
313	Farrington and Selby ave, s. w. cor	High	Single.	6	31
314	Selby and Nina	High	Single.	6	32
315	Nina and Laurel, n. w. cor	High	Single	6	32
316	Westminster, 200 ft. south of G. N. Ry	Low	Single	6	30
317	Thirteenth and Broadway, n. w cor	Low	Single	6	39
318	Temperance and Norris, n. e. cor	Low	Single	4	37
319	Bantil and Seventh, n. e. cor	Low	Single	4	33
320	Goodhue and Seventh, n. e. cor	Low	Single.	6	33
321	Yancey and Seventh, n. e. cor	Low	Single	4	34
322	Western and Seventh, s. w. cor	Low	Single	6	35
323	St. Clair and Seventh, n. e. cor	Low	Single	6	34
324	Richmond and Seventh, s. w. cor.	Low	Single.	6	34
325	Seventh and Colborne, s. e. cor	Low	Single	16	36
326	Chesnut and Franklin, n. w. cor	Low	Single.	6	22
327	Eighth and Jackson, n. w cor	Low	Single	20	32
328	Eighth and Minnesota, n. w. cor	Low	Single	20	29
329	Eighth and [illegible], n. e. cor	Low	Single.	20	27
330	[illegible] and Sa[illegible], s. w. cor	Low	Single	6	23
331	Chesnut and Washington, n. w. cor	Low	Single	6	32
332	[illegible] and Virginia, n. w. cor	High	Single.	6	32
333	Selby and [illegible], n. w. cor	High	Single.	6	32
334	[illegible] and [illegible], s. w. cor	High	Single.	6	30
335	[illegible] and Vancouver, [illegible] cor	High	Single	6	32
336	[illegible] and Mo[illegible], [illegible] cor	High	Single.	6	29
337	[illegible] and [illegible]	High	Single	6	34
338	[illegible]	High	Single.	6	34
339	[illegible]	High	Single.	6	33
340	[illegible]	High	Single	6	29
[illegible]	[illegible]	High	Single	6	29
[illegible]	[illegible]	High	Single	6	31

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steamer.	Size of Pipe	Pressure at Hydrant.
412	Grand and Victoria, n. e. cor	High	Single	6	32
413	University and Marion, n. e. cor	High	Single	12	59
414	University and Gaultier, n. w. cor	High	Single	12	57
415	University and Farrington, n e. cor	High	Single	12	57
416	University and Virginia, n. w. cor	High	Single	12	57
417	Marshall and St. Albans, n. e. cor	High	Single	12	35
418	University and Arundel, n. e. cor	High	Single	12	53
419	Dayton and St. Albans, n. e. cor	High	Single	6	33
420	Dayton and Grotto, n. e. cor	High	Single	6	33
421	Dayton and Avon, n. e. cor	High	Single	6	31
422	Dayton and Fisk, n. e. cor	High	Single	6	34
423	St. Peter and Aurora, s. w. cor	High	Single	6	54
424	St. Peter and University, s. w. cor	High	Single	6	53
425	Park and University, n. w. cor	High	Single	6	52
426	Cedar and University, n. w. cor	High	Single	6	45
427	Cedar and Sherburne, n. w. cor	High	Single	6	35
428	Sherburne, 350 ft. east of Cedar	High	Single	4	36
429	Hoffman and Seventh, s. w. cor	High	Single	6	83
430	Fourth, 400 ft. west of Maria	High	Single	6	89
431	Maria and Seventh, s. w. cor	High	Single	6	69
432	Maria and Sixth, n. w. cor	High	Single	6	68
433	Maria and Fifth, n. w. cor	High	Single	6	67
434	Maria and Fourth, n. w. cor	High	Single	6	69
435	Maria and Third, n. w. cor	High	Single	6	70
436	Maria and Conway, n. w. cor	High	Single	6	72
437	Maria and Ravine, n. w. cor	High	Single	6	73
438	Maria and Euclid, n. w. cor	High	Single	6	74
439	Maria and Hudson, n. w. cor	High	Single	6	73
440	Bates and Plum, n. w. cor	High	Single	12	66
441	Bates ave. and Hudson, n. w. cor	High	Single	12	63
442	Bates and Euclid, n. w. cor	High	Single	12	61
443	Bates and Ravine, n. w. cor	High	Single	12	59
444	Bates and Conway, n. w. cor	High	Single	12	59
445	Bates and Third, n. w. cor	High	Single	12	62
446	Bates and Fourth, n. w. cor	High	Single	12	60
447	Bates and Fifth, n. w. cor	High	Single	12	57
448	Bates and Sixth, n. w. cor	High	Single	12	55
449	Bates and Seventh, s. w. cor	High	Single	12	60
450	Fifth and Maple, n. w. cor	High	Single	6	44
451	Third and Maple, n. w. cor	High	Single	6	46
452	Hudson and Maple, n. w. cor	High	Single	6	47
453	Valley and Canada	High	Single	16	75
454	Seventh and Maple, n. e. cor	High	Single	16	48
455	Seventh and Hope, n. w. cor	High	Single	16	40
456	Seventh and Margaret, n. e. cor	High	Single	16	42
457	Seventh and Beech, n. e. cor	High	Single	16	48
458	Goodhue and Dousman, n. e. cor	Low	Single	6	40
459	Goodhue and Cliff, n. w. cor	Low	Single	6	39
460	Grace and Colborne, s. w. cor	Low	Single	6	36
461	Colborne and Jefferson, n. w. cor	Low	Single	6	38
462	Duke and Seventh, s. w. cor	Low	Single	6	35
463	Seventh and Minnehaha, n. w. cor	High	Single	16	55
464	Seventh and Reaney, n. w. cor	High	Single	16	52
465	Seventh and Forrest, n. w. cor	High	Single	16	52
466	Nash and L'Orient, n. e. cor	Low	Single	6	37
467	Jessie and Fauquier, s. w. cor	Low	Single	6	21
468	Seventh and Erie, s. e. cor	Low	Single	16	36
469	Seventh and Fauquier, n. w. cor	High	Single	16	56
470	Seventh and Cypress, n. e. cor	High	Single	16	60
471	Seventh and Ross, n. w. cor	High	Single	16	62
472	Seventh and Earl, n. w. cor	High	Single	16	64
473	Ross and Earl, n. w. cor	High	Single	6	59
474	Edmund and Marion, n. e. cor	High	Single	6	58
475	Fauquier and Cypress, n. e. cor	High	Single	6	57
476	Fauquier and Earl, n. w. cor	High	Single	6	56
477	Fauquier and Payne, s. w. cor	Low	Single	12	10
478	Fauquier and Edgerton, s. e. cor	Low	Single	12	19
479	Fauquier and Bradley, s. w. cor	Low	Single	12	22
480	De Soto and Fauquier, r. w. cor	Low	Single	12	24

HYDRANTS—Continued.

	Service.	Double or Single Stream.	Size of Pipe.	Expense of Maintenance.
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

LIST OF HYDRANTS—Continued.

No.	Location.	Service	Double or Single Steamer	Size of Pipe	Pressure at Hydrant
688	Selby and Fisk, n. e. cor	High	Single	6	32
689	Selby and Victoria, n. e. cor	High	Single	6	31
690	Hoffman and McLean	High	Single	6	76
691	Hoffman and Lizzie	High	Single	6	74
692	Hoffman and River	High	Single	6	73
693	Portland and Avon, n. e. cor	High	Single	6	29
694	Margaret and Hope, n. w. cor	High	Single	6	43
695	Margaret and Greenbrier, n. e. cor	High	Single	6	46
696	Hoffman and Clermont	High	Single	6	72
697	Cherry, 200 ft. south of Hoffman	High	Single	4	89
698	Ramsey and Western, n. e. cor	High	Single	6	55
699	Oakland and Ramsey, n. w. cor	High	Single	6	86
700	Fourth and Hope, n. w. cor	High	Single	6	44
701	Western and Milwaukee Short Line	Low	Single	6	41
702	Goodrich, 750 ft. east of Dale	High	Single	6	37
703	Dale and Goodrich, n. w. cor	High	Single	12	37
704	Goodrich and Richmond	Low	Single	6	83
705	Ninth and Olive, s. w. cor	Low	Single	6	45
706	Ninth and Neill, s. w. cor	Low	Single	4	43
707	Sixth and Hope, n. e. cor	High	Single	6	40
708	Martin and Kent, n. e. cor	High	Single	6	44
709	Jackson and Valley, s. e. cor	High	Single	6	48
710	Martin and Mackubin, n. e. cor	High	Single	6	40
711	Greenbrier and North, n. w. cor	High	Single	12	53
712	Greenbrier and Maury, s. w. cor	High	Single	12	49
713	Sherburne and Park, n w. cor	High	Single	6	51
714	Third and Jackson, n. w. cor	Low	Double	6	53
715	St. Anthony and Dale, n. e. cor	High	Single	6	30
716	St. Anthony and Kent, n. e. cor	High	Single	6	39
717	Arcade and Minnehaha, s. w. cor	High	Single	12	53
718	St. Anthony and Mackubin, n. e. cor	High	Single	6	44
719	St. Anthony and Arundel, n. e. cor	High	Single	6	46
720	St. Anthony and Virginia, n. w. cor	High	Single	6	53
721	St. Anthony and Farrington, n. w. cor	High	Single	6	57
722	Wabasha and Park, s. e. cor	High	Single	4	59
723	St. Anthony and Jay, n. w. cor	High	Single	6	61
724	St. Anthony and Louis, n. w. cor	High	Single	6	60
725	St. Anthony and Ravoux	High	Single	6	61
726	Sherburne and Brewster, n. w. cor	High	Single	6	42
727	Brewster and University, n. w. cor	High	Single	6	48
728	Harrison and Western, n. e. cor	Low	Single	6	33
729	Martin and Virginia, n. w. cor	High	Single	6	54
730	Martin and Farrington, n. w. cor	High	Single	6	57
731	Pedusylvania and L'Orient, n. e. cor	Low	Single	6	33
732	Martin and Jay, n. w. cor	High	Single	6	59
733	Martin and Louis, n. e. cor	High	Single	6	59
734	Glencoe and L'Orient, n. e. cor	Low	Single	6	31
735	Glencoe and Columbia, n. e. cor	Low	Single	6	27
736	Arcade and Wells, n. w. cor	High	Single	12	56
737	Arcade and York, n. w. cor	High	Single	12	50
738	Arcade and Sims, n. w. cor	High	Single	12	46
739	Arcade and Case, n w. cor	High	Single	12	48
740	Arcade and Jenks, s. w. cor	High	Single	12	46
741	Arcade and Lawson, s. w. cor	High	Single	12	45
742	Arcade and Cook, s. w. cor	High	Single	12	42
743	Arcade and Magnolia, s. w. cor	High	Single	12	43
744	Arcade, in front of Bohn Mfg Co	High	Single	12	60
745	Fauquier and Weide, n. e, cor	High	Single	6	58
746	Reaney and Weide, n. e. cor	High	Single	6	62
747	Reaney and Arcade, n. e. cor	High	Single	6	56
748	Edmund and Gaultier, n. e. cor	High	Single	6	57
749	Edmund and Eifelt, n. e. cor	High	Single	6	56
750	Edmund and Farrington, n. e. cor	High	Single	6	55
751	Edmund and Virginia, n. e. cor	High	Single	6	55
752	Edmund and Western, n. e. cor	High	Single	6	56
753	Como and Thomas, s. e. cor	High	Single	20	56
754	Como and Claghorn, s. e. cor	High	Single	20	58
755	Como and Lafond, s. e. cor	High	Single	20	59
756	Como and Gaultier, s. e. cor	High	Single	20	61

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steamer	Size of Pipe	Pressure at Hydrant
826	Wabasha and Colorado, n. w. cor	Low	Single	6	57
827	Wabasha and Delos, s. w. cor	Low	Single	6	53
828	Isabel and State, n. w. cor	Low	Single	12	53
829	Isabel and Greenwood, n. w. cor	Low	Single	12	49
830	Isabel and Clinton, n. w. cor	Low	Single	12	52
831	Isabel and Robert, n. w. cor	Low	Single	12	53
832	Isabel and Livingston, n. w. cor	Low	Single	12	54
833	Isabel and Starkey, n. w. cor	Low	Single	12	54
834	Isabel and Wabasha, n. w. cor	Low	Single	12	49
835	Isabel and Goff	Low	Single	12	40
836	Isabel and Hall, n. w. cor	Low	Single	12	22
837	Isabel and Stryker, n. w. cor	Low	Single	12	20
838	Isabel and Winslow, n. w. cor	Low	Single	12	21
839	Concord and Bancroft, n. w. cor.	Low	Single	12	54
840	Concord and Anita, n. e. cor	Low	Single	12	53
841	Concord and Ada, n. e. cor	Low	Single	12	50
842	Concord and State, n. e. cor	Low	Single	12	49
843	Concord and Robie, s. w. cor	Low	Single	12	50
844	Concord and Winifred, s. w. cor	Low	Single	12	53
845	Concord and Congress, s. w. cor	Low	Single	12	54
846	Concord and Onega, s. w. cor	Low	Single	12	56
847	John and Williams, s. w. cor	Low	Single	6	35
848	Western and Superior, s. w. cor	Low	Single	6	32
849	Robert and Fillmore, n. w. cor	Low	Single	6	61
850	Congress and Robert, n. w. cor	Low	Single	6	54
851	Congress and Clinton, n. w. cor	Low	Single	6	52
852	Congress and Greenwood, n. w. cor	Low	Single	6	50
853	Congress and State, n. w. cor	Low	Single	6	50
854	Minnehaha and Edgerton, n. w. cor	Low	Single	6	19
855	Robie and State, n. e. cor	Low	Single	6	52
856	Robie and Ada, n. e. cor	Low	Single	6	53
857	Robie and Anita, n. e. cor	Low	Single	6	56
858	Robie and Bancroft, n. w. cor	Low	Single	6	58
859	Winifred and State, n. e. cor	Low	Single	6	51
860	Winifred and Ada, n. e. cor	Low	Single	6	52
861	Winifred and Anita, n. e. cor	Low	Single	6	51
862	Winifred and Bancroft, n. w. cor	Low	Single	6	52
863	Congress and State, n. e. cor	Low	Single	6	50
864	Congress and Ada, n. e. cor	Low	Single	6	50
865	Congress and Anita	Low	Single	6	50
866	Congress and Dunedin Terrace, n. e. cor	Low	Single	6	50
867	Congress and Bancroft	Low	Single	6	50
868	Hoffman and Short, s. w. cor	High	Single	6	76
869	Sixth and Washington, s. e. cor	Low	Single	6	33
870	Lee and Drake, n. w. cor	Low	Single	6	43
871	Lee and Warsaw, n. w. cor	Low	Single	6	39
872	Lee and Bay, n. e. cor	Low	Single	6	35
873	Western and Banfil, n. w. cor	Low	Single	6	31
874	Von Minden and Dousman, n. w. cor	Low	Single	6	35
875	Von Minden and Ann, n. w. cor	Low	Single	6	34
876	Minnehaha and Bradley, n. e. cor	Low	Single	6	17
877	Fillmore and Starkey, n. w. cor	Low	Single	6	68
878	Brewster and Como, s. w. cor	High	Single	6	41
879	Mt. Airy and L'Orient, n. w. cor	High	Single	6	80
880	Sherburne and Dale, n. e. cor.	High	Single	6	46
881	Fillmore and Custer, n. w. cor	Low	Single	6	66
882	Fillmore and Hubert, n. w. cor	Low	Single	6	63
883	Fillmore and Eaton, n. e. cor	Low	Single	6	62
884	Fillmore and Eva, n. w. cor	Low	Single	6	65
885	Fillmore and Robertson, n. w. cor	Low	Single	6	67
886	Woodward and Burr, n. e. cor	Low	Single	4	44
887	Wabasha and Congress, n. w. cor	Low	Single	6	46
888	Wabasha and Goff	Low	Single	6	41
889	Congress and Onega, n. w. cor	Low	Single	6	49
890	Reaney and Walsh, n. e. cor	High	Single	6	70
891	Reaney and Greenbrier, n. e. cor.	High	Single	6	72
892	Euclid and Cypress, n. e. cor	High	Single	6	48
893	Euclid and Earl, n. w. cor	High	Single	6	43
894	Livingston and Wood, s. w. cor	Low	Single	6	57

LIST OF HYDRANTS—Continued.

No.	Location.	Service	Double or Single Stream	Size of Pipe	Distance from Ground to Center of Nozzle
964	Randolph and Fulton, n. e. cor	Low	Single	12	59
965	Randolph and Clifton, n. e. cor	Low	Single	12	59
966	Randolph and Victoria, n. w. cor	Low	Single	12	57
967	Randolph and Milton, n. e. cor	Low	Single	12	58
968	Lafond and Kent, n. e. cor	High	Single	6	53
969	Lafond and Dale, n. e. cor	High	Single	6	59
970	Eagle and Seventh, s. w. cor	Low	Double	6	4
971	Edmund and Arundel, n. w. cor	High	Single	6	76
972	Edmund and Mackinaw, n. e. cor	High	Single	6	56
973	Edmund and Kent, n. e. cor	High	Single	6	71
974	Edmund and Dale, n. e. cor	High	Single	6	59
975	Case and Forrest, n. w. cor	High	Single	12	49
976	Case and Mendota, n. w. cor	High	Single	12	49
977	Cotborne and St. Clair, n. w. cor	Low	Single	6	42
978	Case and Weide, n. w. cor	High	Single	12	38
979	Case and Walsh, n. w. cor	High	Single	12	39
980	Aurora and Dale, n. w. cor	High	Single	6	44
981	Fuller and Dale, n. w. cor	High	Single	6	42
982	Rondo and Dale, n. e. cor	High	Single	6	59
983	Payne and Case, n. w. cor	High	Single	6	46
984	Payne and Jenks, n. w. cor	High	Single	6	65
985	Payne and Lawson, n. w. cor	High	Single	6	64
986	Cook and Payne, n. e. cor	High	Single	6	61
987	Case and Greenbrier, n. w. cor	High	Single	12	50
988	Case and Edgerton, n. e. cor	High	Single	12	73
989	Martin and Dale, n. e. cor	High	Single	6	40
990	Cotborne and Superior, s. w. cor	Low	Single	6	32
991	Cotborne and Michigan, s. w. cor	Low	Single	6	32
992	Case and Jessie, n. e. cor	High	Single	12	73
993	Case and Bradley, n. e. cor	High	Single	12	67
994	Case and Burr, n. e. cor	High	Single	12	68
995	Case and DeSoto, n. w. cor	High	Single	12	66
996	Case and Arkwright, n. w. cor	High	Single	12	69
997	Case and McMenemy, n. e. cor	High	Single	12	62
998	Burr and Jenks, s. w. cor	High	Single	6	66
999	Burr and York, n. w. cor	High	Single	6	63
1000	Burr and Whitall, n. w. cor	High	Single	6	60
1001	Burr and Omaha Ry.	High	Single	6	66
1002	Charles and Mackinaw, n. w. cor	High	Single	6	55
1003	Charles and Kent, n. w. cor	High	Single	6	50
1004	Charles and Dale, n. e. cor	High	Single	6	48
1005	Charles and St. Albans, n. e. cor	High	Single	6	47
1006	Edmund and St. Albans, n. e. cor	High	Single	6	48
1007	Edmund and Grotto, n. e. cor	High	Single	6	50
1008	Lafond and St. Albans, n. e. cor	High	Single	6	48
1009	Lafond and Grotto, n. e. cor	High	Single	6	51
1010	Van Buren and Dale, n. w. cor	High	Single	6	54
1011	Minnehaha and Dale, n. w. cor	High	Single	6	54
1012	Payne and Omaha Ry.	High	Single	6	63
1013	Payne and Ross, n. w. cor	High	Single	6	65
1014	Payne and Whitall, n. w. cor	High	Single	6	63
1015	Payne and Wells, n. w. cor	High	Single	6	61
1016	York and Edgerton, n. e. cor	High	Single	6	75
1017	York and Payne, n. w. cor	High	Single	6	62
1018	York and Greenbrier, n. w. cor	High	Single	6	48
1019	Sims and Greenbrier, n. w. cor	High	Single	6	49
1020	Sims and Payne, n. e. cor	High	Single	6	64
1021	Tuscarora and W. 7th, n. e. cor	Low	Single	6	33
1022	Sims and Weide, n. w. cor	High	Single	6	35
1023	Sims and Walsh, n. w. cor	High	Single	6	41
1024	York and Weide, n. w. cor	High	Single	6	33
1025	York and Walsh, n. w. cor	High	Single	6	40
1026	University and St. Albans, n. e. cor	High	Single	20	48
1027	University and Grotto, n. e. cor	High	Single	20	47
1028	University and Avon, n. e. cor	High	Single	20	47
1029	University and Victoria, n. e. cor	High	Single	20	46
1030	York and Mendota, n. w. cor	High	Single	6	53
1031	York and Forrest, n. w. cor	High	Single	6	57
1032	Forrest and Weiss, n. w. cor	High	Single	6	64

LIST OF HYDRANTS—Continued.

No.	Location	Service	Double or Single Steamer	Size of Pipe	Pressure at Hydrant
1102	Rondo and Howell, n. e. cor	High	Single	6	36
1103	Rondo and Prior, n. e. cor	High	Single	6	38
1104	Rondo and Terrace Park ave. n. e. cor	High	Single	6	30
1105	Carroll and Fairview, n. e. cor	High	Single	6	33
1106	Carroll and Laura, n. e. cor	High	Single	6	35
1107	Carroll and Ferdinand, n. e. cor	High	Single	6	36
1108	Carroll and Howell, n. e. cor	High	Single	6	37
1109	Carroll and Prior, n. e. cor	High	Single	6	45
1110	Carroll and Moore, n. e. cor	High	Single	6	40
1111	Carroll and Wilder, n. e. cor	High	Single	6	39
1112	Carroll and Cleveland, n. e. cor	High	Single	6	38
1113	Iglehart and Cleveland, n. e. cor	High	Single	6	44
1114	Iglehart and Wilder, n. w. cor	High	Single	6	43
1115	Iglehart and Moore, n. e. cor	High	Single	6	41
1116	Iglehart and Prior, n. e. cor	High	Single	6	37
1117	Iglehart and Howell, n. e. cor	High	Single	6	36
1118	Iglehart and Laura, n. w. cor	High	Single	6	34
1119	Wilder and Carroll, n. w. cor	High	Single	6	39
1120	Wilder and Rondo, s. w. cor	High	Single	6	37
1121	Fauquier and Frank, n. w. cor	High	Single	6	63
1122	Plum and Hoffman, n. e. cor	High	Single	6	76
1123	Freemont and Forrest, n. w. cor	High	Single	6	47
1124	Prior and University, s. e. cor	High	Single	12	40
1125	Prior and Feronia, n. e. cor	High	Single	12	42
1126	Sibley and Fourth, s. w. cor	Low	Double	6	54
1127	Prior and Marshall, n. w. cor	High	Single	12	39
1128	Chicago and Starkey, n. w. cor	Low	Single	6	69
1129	Chicago and Custer, n. w. cor	Low	Single	6	69
1130	Emma and Railroad	Low	Single	4	40
1131	Robie and Brown, n. w. cor	Low	Single	6	57
1132	Rondo and Kent, n. e. cor	High	Single	6	35
1133	Short and Maria, n. w. cor	High	Single	6	72
1134	Ravine, 325 feet west of Maria	High	Single	4	63
1135	Cedar and Fourth, s. e. cor	Low	Double	12	38
1136	Wabasha and Fourth, n. e. cor	Low	Double	6	32
1137	Third and Exchange, s. side	Low	Double	12	35
1138	Third and Franklin, s. side	Low	Double	12	34
1139	Third and Washington, s. side	Low	Double	12	34
1140	Third and Market, s. side	Low	Double	12	33
1141	Third and St. Peter, s. side	Low	Double	12	33
1142	Cedar and Third, s. e. cor	Low	Double	12	33
1143	Wabasha and Third, s. w. cor	Low	Double	12	34
1144	Lafond and Claghorn, n. w. cor	High	Single	6	58
1145	Claghorn and Lake, s. w. cor	High	Single	6	57
1146	Claghorn and Van Buren, s. w. cor	High	Single	6	60
1147	George and Livingston, n. w. cor	Low	Single	12	20
1148	George and Gorman, n. w. cor	Low	Single	12	22
1149	George and Goff, n. w. cor	Low	Single	12	23
1150	George and Hall, n. w. cor	Low	Single	12	17
1151	George and Stryker, n. e. cor	Low	Single	12	15
1152	Stryker and Robie, n. w. cor	Low	Single	6	22
1153	Stryker and Winifred, n. w. cor	Low	Single	6	26
1154	Stryker and Congress, n. w. cor	Low	Single	6	26
1155	Stryker and Delos, s. w. cor	Low	Single	6	21
1156	Stryker and Colorado, s. w. cor	Low	Single	6	20
1157	Stryker and Prospect Terrace, s. w. cor	Low	Single	6	21
1158	Ellen and St. Albans, n. e. cor	High	Single	16	46
1159	Seventh and John, s. e. cor	Low	Double	16	45
1160	Seventh and Olive, s. e. cor	Low	Double	16	43
1161	Seventh and Pine, s. e. cor	Low	Double	16	43
1162	Seventh and Broadway, n. e. cor	Low	Double	16	44
1163	Seventh and Rosabel, n. e. cor	Low	Double	16	44
1164	Seventh and Sibley, n. e. cor	Low	Double	12	45
1165	Wacouta and Seventh, s. e. cor	Low	Double	12	44
1166	Locust and Seventh, n. e. cor	Low	Double	20	46
1167	Charles and Grotto, n. e. cor	High	Single	6	49
1168	Charles and Avon, n. e. cor	High	Single	6	46
1169	Aurora and St. Albans, n. e. cor	High	Single	6	46
1170	Rondo and St. Albans, n. e. cor	High	Single	6	33

LIST OF HYDRANTS—Continued.

No.	Location	Service	Double or Single Streamer	Size of Pipe	Pressure at Hydrant
1240	Bates and Maury, s. w. cor	High	Single	6	60
1241	Hope and Seventh, s. w. cor	High	Single	6	40
1242	Arcade and Seventh, s. w. cor	High	Single	6	46
1243	Arcade and Dawson	High	Single	6	36
1244	Front and Como, n. w cor	High	Single	12	41
1245	Front and Grotto	High	Single	12	43
1246	Front and Avon	High	Single	12	37
1247	Front and South, n. e. cor	High	Single	12	33
1248	Front and Ryde, n. e. cor	High	Single	12	33
1249	Front and Chatsworth, n. e. cor	High	Single	12	31
1250	Front and Argyle, n. e. cor	High	Single	12	30
1251	Front and Oxford, n. e. cor	High	Single	12	30
1252	Front and Churchill, n. e. cor	High	Single	12	32
1253	Front and Lexington, n. e. cor	High	Single	12	34
1254	Seventh and Newcomb, n. w. cor	High	Single	16	54
1255	Seventh and Atlantic, n. w. cor	High	Single	16	54
1256	Seventh and Ocean, n. w. cor	High	Single	16	58
1257	Minnehaha and Duluth, n. w. cor	High	Single	6	57
1258	Minnehaha and Frank, n. w. cor	High	Single	6	51
1259	Dayton Place, 206 ft. west of Maria	High	Single	4	72
1260	Minnehaha and Seventh, n. e. cor	High	Single	6	55
1261	Minnehaha and Forrest, n. e. cor	High	Single	6	56
1262	Minnehaha and Cypress, n. e. cor	High	Single	6	58
1263	Dale and Gt. Northern Ry Co	High	Single	24	53
1264	Burgess and Dale, n. e cor	High	Single	6	43
1265	Topping and Dale, n. e. cor	High	Single	6	44
1266	Case and Terrance	High	Single	6	76
1267	Toronto and Palace, n. w. cor	Low	Single	6	33
1268	Toronto and Jefferson, s. w. cor	Low	Single	6	33
1269	Lexington and N. P. Ry, s. e. cor	High	Single	16	28
1270	Third and Robert, n. e cor	Low	Double	12	47
1271	Third and Minnesota, n. w. cor	Low	Double	12	40
1272	Robert and Fourth, s. e. cor	Low	Double	6	46
1273	Hastings and Maple, n. w. cor	High	Single	12	58
1274	Maple and Plum, n. w. cor	High	Single	12	49
1275	Sherburne and Grotto, n. e. cor	High	Single	6	46
1276	Sherburne and Avon, n. e. cor	High	Single	6	58
1277	Sherburne and Victoria, n. e. cor	High	Single	6	47
1278	Freemont and Arcade, n. e. cor	High	Single	6	39
1279	East Third and Arcade, n. w. cor	High	Single	6	44
1280	Conway and Cypress, n. w. cor	High	Single	6	46
1281	Sibley, between Fifth and Sixth	Low	Double	6	48
1282	Freemont and Cypress, n. w cor	High	Single	6	48
1283	Forrest and Fourth, s. w. cor	High	Single	6	45
1284	Forrest and Francis, s. w. cor	High	Single	6	46
1285	Columbia and Arch, s. w. cor	Low	Single	6	30
1286	Columbia and Pennsylvania, n. w. cor	Low	Single	6	32
1287	Sims and Mendota, n. w. cor	High	Single	6	50
1288	Sims and Edgerton, n. e. cor	High	Single	6	74
1289	York and Jessie, n. w. cor	High	Single	6	73
1290	York and Bradley, n. w. cor	High	Single	6	64
1291	Fairmont and Avon, n. e. cor	High	Single	6	31
1292	Fairmont and Victoria, n. e. cor	High	Single	6	33
1293	Lisbon and Pleasant, n. e. cor	Low	Single	6	28
1294	Pleasant and Western, s. w. cor	Low	Single	6	26
1295	University, under east end of bridge	High	Single	20	40
1296	University, under centre of bridge	High	Single	20	40
1297	University and Cleveland	High	Single	20	40
1298	University, under west end of bridge	High	Single	20	40
1299	University and Vandalia, n. w. cor	High	Single	20	42
1300	University and Pillsbury, n. w. cor	High	Single	20	46
1301	University and Hersey, n. w. cor	High	Single	20	48
1302	University and LaSalle, n. w. cor	High	Single	20	46
1303	University and Carleton, n. w. cor	High	Single	20	43
1304	Cayuga and Mississippi	High	Single	6	86
	Cayuga, 300 feet west of Mississippi	High	Single	6	72
	Raymond and University, n. w. cor	High	Single	16	42
	Raymond and Territorial road, s. w. cor	High	Single	16	39
	Raymond and Ellis, n. w. cor	High	Single	16	34

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Stream.	Size of Pipe.	Number in Hydrant.
1357	Spelling and Gordon	High	Single	16	34
1358	Sumner and Manchester, s. e. cor	High	Single	4	31
1359	Jessamine and Wade, n. e. cor	High	Single	6	37
1362	Jessamine and Arcade, n. e. cor	High	Single	6	65
1363	Jessamine and Madison, s. w. cor	High	Single	4	44
1364	Jessamine and Forest, n. w. cor	High	Single	6	39
1365	Forrest and Geraldine, s. w. cor	High	Single	6	29
1366	Kerr and Lawton, s. w. cor	High	Single	6	56
1367	Kerr and Cook, s. w. cor	High	Single	6	43
1368	Selby and Milton, n. e. cor	High	Single	6	35
1369	Ashland and Y. M. C. A., n. e. cor	High	Single	6	34
1370	Victoria and Ashland, n. w. cor	High	Single	16	31
1371	Dayton and Milton, n. e. cor	High	Single	6	37
1372	Clark and Wheeler, n. w. cor	High	Single	6	66
1373	Clark and York, s. w. cor	High	Single	6	56
1374	Clark and Locust Place	High	Single	6	60
1375	Clark and Cass, s. w. cor	High	Single	6	65
1376	Ingehart and Milton, n. e. cor	High	Single	6	35
1377	Ingehart and Chatsworth, n. e. cor	High	Single	6	39
1378	Ingehart and Oxford, n. e. cor	High	Single	6	40
1379	Tuscarora and Victoria, n. e. cor	Low	Single	6	29
1380	Whitall and Bradley, n. w. cor	High	Single	6	53
1381	Kossuth and Milton, n. e. cor	High	Single	6	43
1382	Whitall and De Soto, n. w. cor	High	Single	6	63
1383	De Soto and York, n. w. cor	High	Single	6	61
1384	Mound and Burns	High	Single	12	44
1385	Mayall alley, 75 ft. north of 7th	Low	Single	4	22
1386	Burns and Clermont	High	Single	6	42
1387	Cross and Lexington, n. e. cor	High	Single	6	40
1388	Work House, north	High	Single	6	38
1389	Work House, south	High	Single	6	38
1390	Burns and Earl, n. e. cor	High	Single	6	41
1411	Burns and Hester, n. e. cor	High	Single	6	48
1412	Burns and Griffith, n. w. cor	High	Single	6	53
1413	Van Slyke and Lexington, n. e. cor	High	Single	6	41
1414	Van Slyke and Horton, n. e. cor	High	Single	6	42
1415	Van Slyke and Argyle	High	Single	6	38
1416	Argyle and Cross, s. w. cor	High	Single	6	39
1417	Tuscarora and Milton, n. e. cor	Low	Single	6	30
1418	Francis and Cypress, n. w. cor	High	Single	6	34
1419	Robbins and Raymond Place, s. w. cor	High	Single	6	35
1420	Bayless and Tainter, n. w. cor	High	Single	16	46
1421	Wheeler and Bayless, n. e. cor	High	Single	12	46
1422	Wheeler and Ada Place, n. w. cor	High	Single	12	39
1423	Wheeler and Everett Court	High	Single	12	40
1424	Everett Court, G. N. Ry., n. w. cor	High	Single	6	41
1425	Raymond and Kendrick, n. w. cor	High	Single	6	41
1426	Raymond and Blake, n. w. cor	High	Single	6	44
1427	Raymond and Att'y. Place, s. w. cor	High	Single	6	42
1428	Raymond and Langford ave., s. w. cor	High	Single	6	39
1429	Priscilla and Raymond, n. e. cor	High	Single	6	41
1430	Priscilla, 500 feet east of Raymond	High	Single	6	43
1431	Pratt and Raymond, n. e. cor	High	Single	6	40
1432	Pratt and Alden, n. w. cor	High	Single	6	43
1433	Pratt and Gibbs, n. w. cor	High	Single	6	45
1434	Blake and Langford Place, east, n. e. cor	High	Single	16	44
1435	Blake and Scudder, n. e. cor	High	Single	6	44
1436	Scudder and Atty Place	High	Single	16	36
1437	Scudder and Gordon, n. e. cor	High	Single	6	36
1438	Langford and Scudder, n. w. cor	High	Single	16	36
1439	Langford and Knapp, n. e. cor	High	Single	16	35
1440	County Road and Dooley, s. w. cor	High	Single	16	25
1441	Dawson and Francis, n. w. cor	High	Single	6	46
1442	Crocus Place	High	Single	4	38
1443	Delos and Hall, n. w. cor	Low	Single	6	20
	Langford P. P. west and Bayless, s. w. cor	High	Single	12	45
	Langford P. P. west and N. P. Ry., n. w. cor	High	Single	6	35
	Langford P. P. west and Blake, s. w. cor	High	Single	12	37
	Gordon and Langford P. P. west, n. w. cor	High	Single	12	36

LIST OF HYDRANTS—Continued.

No.	Location.	Service	Double or Single Steamer	Size of Pipe	Pressure at Hydrant
1517	St. Anthony and Wheeler ave., n. w. cor	High	Single	6	34
1518	St. Anthony and Bacon, n. w. cor	High	Single	6	34
1519	Goodrich and Milton, n. e. cor	High	Single	6	38
1520	Goodrich and Chatsworth, n. e. cor	High	Single	6	40
1521	Goodrich and Oxford, n. e. cor	High	Single	6	35
1522	Mt. Ida and Rivoli, n. e. cor	Low	Single	6	8
1523	Osceola and Milton, n. e. cor	High	Single	6	45
1524	Osceola and Chatsworth, n. e. cor	High	Single	6	36
1525	Evergreen and Chatsworth, n. w. cor	High	Single	6	39
1526	Evergreen and Oxford, n. e. cor	High	Single	6	32
1527	Arcade and Geranium, s. w. cor	High	Single	12	46
1528	Arcade and Rose, s. w. cor	High	Single	12	45
1529	Rose and Weide, n. e. cor	High	Single	6	46
1530	Rose and Walsh, n. e. cor	High	Single	6	45
1531	Fairview and Shields	High	Single	16	37
1532	Geranium and Weide, n. e. cor	High	Single	6	47
1533	Geranium and Walsh, n. e. cor	High	Single	6	45
1534	Geranium and Greenbrier, n. e. cor	High	Single	6	40
1535	Fairview and Sherburne	High	Single	16	40
1536	St. Clair and Roebe	High	Single	12	43
1537	St. Clair and Milton, n. w. cor	High	Single	12	77
1538	St. Clair and Chatsworth, n. e. cor	High	Single	12	38
1539	St. Clair and Ridgewood ave	High	Single	12	33
1540	St. Clair and Oxford, n. e. cor	High	Single	12	30
1541	Jessamine and Walsh, n. e. cor	High	Single	6	46
1542	Charles and Fairview, n. w. cor	High	Single	6	40
1543	Charles, 500 ft. west of Fairview	High	Single	6	37
1544	Wheeler and Shields, n. w. cor	High	Single	6	36
1545	Jessamine and Burr, n. e. cor	High	Single	6	42
1546	Bacon and Shields, n. w. cor	High	Single	4	36
1547	Jessamine and De Soto, n. e. cor	High	Single	6	46
1548	Jessamine and Clark, n. e. cor	High	Single	6	50
1549	Jessamine and Arkwright, n. e. cor	High	Single	6	46
1550	Portland and Victoria, n. e. cor	High	Single	6	32
1551	Jessamine and Woodland, n. e. cor	High	Single	6	44
1552	Jessamine and McMenemy, n. e. cor	High	Single	6	51
1553	Jessamine, 150 ft. east of Mississippi	High	Single	6	70
1554	Territorial road and Hunt place, n. w. cor	High	Single	6	43
1555	Territorial road and Cromwell, n. e. cor	High	Single	6	44
1556	Territorial road and Eustis, n. e. cor	High	Single	6	40
1557	Hague ave. and Milton st., n. e. cor	High	Single	6	35
1558	Hague ave. and Chatsworth, n. e. cor	High	Single	6	31
1559	Hague ave. and Oxford, n. e. cor	High	Single	6	32
1560	Hague ave. and Lexington, n. e. cor	High	Single	6	36
1561	Mulberry and Sixth, s. w. cor	High	Single	4	62
1562	Payne and Maryland, s. w. cor	High	Single	6	38
1563	Payne and Hawthorne, s. w. cor	High	Single	6	40
1564	Payne and Orange, s. w. cor	High	Single	6	39
1565	Payne and Hyacinth, s. w. cor	High	Single	6	38
1566	Payne and Ivy, s. w. cor	High	Single	6	36
1567	Nourse and N. P. Ry., n. w. cor	High	Single	6	35
1568	De Soto and Jenks, s. w. cor	High	Single	6	61
1569	De Soto and Lawson, s. w. cor	High	Single	6	49
1570	Charles and Arundel, n. e. cor	High	Single	6	57
1571	Virginia and Blair, n. w. cor	High	Single	4	58
1572	Virginia and Minnehaha, s. w. cor	High	Single	4	57
1573	Capitol and Fry, n. e. cor	High	Single	6	29
1574	Capitol and Aldine, n. e. cor	High	Single	6	25
1575	Capitol and Wheeler, n. e. cor	High	Single	6	30
1576	Arch and Fairview, n. w. cor	High	Single	6	52
1577	Arch and Warren	High	Single	6	36
1578	Arch and Mt. Vernon, n. e. cor	High	Single	6	49
1579	Arch, 300 ft. east of Linden	High	Single	6	71
1580	Arch, 100 ft. west of Columbia	High	Single	6	84
1581	Gaultier and Topping, n. w. cor	High	Single	6	62
1582	Gaultier and Burgess, n. w. cor	High	Single	6	62
1583	Gaultier and Stinson, n. w. cor	High	Single	6	56
1584	Gaultier and Hatch, n. w. cor	High	Single	6	49
1585	Gaultier and Lawson, n. w. cor	High	Single	6	44

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steamer.	Size of Pipe	Pressure at Hydrant
1655	Jackson, under bridge, at Round House	High	Single	12	69
1656	Jackson, north line of G. N. Ry., n. w. cor	High	Single	12	60
1657	Jackson and Capitol, n. w. cor	High	Single	12	63
1658	Lafond and Milton, n. e. cor	High	Single	6	44
1659	Maria and McLean, s. w. cor	High	Single	6	73
1660	Maria and Lizzie, s. e. cor	High	Single	6	66
1661	Capitol and Sylvan, n. e. cor	High	Single	6	62
1662	Capitol and Lightner Place, n. e. cor	High	Single	6	66
1663	Stewart and Tuscarora, s. w. cor.	Low	Single	6	36
1664	Stewart and Bay, n. e. cor	Low	Single.	6	34
1665	Bay and Logan, n. e. cor	Low	Single	6	37
1666	Bay and Tuscarora, n. w. cor	Low	Single	6	35
1667	Hudson and Forrest, n. w. cor	High	Single	6	58
1668	Hudson and Cypress, n. w. cor	High	Single	6	50
1669	Selby and Chatsworth, n. e. cor	High	Single	6	32
1670	Selby and Oxford, n. e. cor	High	Single	6	36
1671	Mound and Clermont, n. w. cor	High	Single	6	50
1672	Mound and Thorn	High	Single	6	46
1673	Mound, 335 ft. west of Earl	High	Single.	6	34
1674	Courtland and Agate, n. e. cor	High	Single	16	66
1675	Courtland and York, n. e. cor	High	Single	16	61
1676	Courtland and Poplar, n. e. cor	High	Single	16	63
1677	Hall and Colorado, s. w. cor	Low	Single	6	21
1678	Hall and Prospect Terrace, s. w. cor	Low	Single	6	22
1679	Marshall and Laura, n. w. cor	High	Single	12	29
1680	Marshall and Fairview, n. w. cor	High	Single.	12	28
1681	Marshall and Wheeler, n. w. cor	High	Single	12	29
1682	View and Juno, n. w. cor	Low	Single	6	32
1683	Minnehaha and Hamline, n. w. cor	High	Single	12	27
1684	Hall and Robie, n. w. cor	Low	Single	6	25
1685	Cortland and Case, n. e. cor	High	Single	16	64
1686	Cortland and Jenks, n. e. cor	High	Single.	16	65
1687	Cortland and Lawson, n. e. cor	High	Single	16	64
1688	Cortland and Cook	High	Single	16	64
1689	Cortland and Magnolia, n. w. cor	High	Single.	16	63
1690	Cortland and Jessamine, n. w. cor	High	Single	16	62
1691	Cortland and Geranium, n. w. cor	High	Single	16	61
1692	Cortland and Rose, n. w. cor	High	Single	16	62
1693	Cortland and Maryland, s. w. cor	High	Single	16	64
1694	Congress and Goff, n. w. cor	Low	Single.	6	40
1695	Agate and York, s. w. cor	High	Single	6	80
1696	Agate and Elk	High	Single	6	62
1697	Agate, 250 ft. south of Granite	High	Single	6	52
1698	Pleasant and St. Albans, s. w. cor	High	Single	12	66
1699	Hoffman and Hudson, s. w. cor	High	Single	6	78
1700	St. Albans, 300 ft. south of Fairmont	High	Single	12	51
1701	Winifred and Winslow, n. w. cor	Low	Single	6	25
1702	Winifred and Bidwell, n. w. cor	Low	Single	6	21
1703	Winifred and Bellows, n. w. cor	Low	Single	6	21
1704	Wacouta, between Third and Fourth	Low	Double	6	62
1705	Fourth and Sibley	Low	Double	6	55
1706	Sibley and Union Depot	Low	Single	4	70
1707	Evergreen and Victoria, n. w. cor	High	Single	6	36
1708	Evergreen and Milton, n. e. cor	High	Single	6	47
1709	Sherburne and Milton, n. e. cor	High	Single	6	49
1710	Sherburne and Chatsworth, n. e. cor	High	Single	6	51
1711	Sixth, between Sibley and Wacouta	Low	Single	4	48
1712	Dearborn and Livingston, n. e. cor	Low	Single	6	20
1713	Charles and Milton, n. e. cor	High	Single	6	50
1714	Charles and Victoria, n. e. cor	High	Single	6	49
1715	Fifth and Broadway, n. e. cor	Low	Double	6	57
1716	Fifth and Pine, n. e. cor	Low	Single	6	55
1717	Fifth and Olive, n. e. cor	Low	Single	6	56
1718	Edmund and Avon, n. e. cor	High	Single	6	53
1719	Edmund and Victoria, n. e. cor	High	Single	6	50
1720	Edmund and Milton, n. e. cor	High	Single	6	48
1721	Woodward and John, n. e. cor	Low	Single	4	40
1722	Grand ave. and Lexington, n. e. cor	High	Single	6	40
1723	Leslie and Milton, n. e. cor	High	Single	6	36

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steamer.	Size of Pipe	Pressure at Hydrant
1793	Congress and Kansas City Ry	Low	Single	4	50
1794	Avon and Martin, s. w. cor	High	Single	4	49
1795	Wacouta and Sixth, s. w. cor	Low	Double	6	49
1796	Linwood and Grotto, n. e. cor	High	Single	6	34
1797	Ashland and Chatsworth, n. e. cor	High	Single	6	32
1798	Stinson and Western, n. e. cor	High	Single	6	40
1799	Third, at west end of Bridge	Low	Double	12	60
1800	Minnehaha and Rivoli, n. e. cor	Low	Single	6	5
1801	Linden, head of Glencoe	High	Single	6	41
1802	Linden and Arch, s. w. cor	High	Single	6	53
1803	Concord and Curtis	Low	Single	12	67
1804	Concord, 400 ft. north of Curtis	Low	Double	12	68
1805	Concord and Page, n. e. cor	Low	Double	12	60
1806	Concord and Witham, n. e. cor	Low	Single	12	66
1807	Concord and Hoyt, n. w. cor	Low	Single	12	64
1808	Winslow and Prospect Terrace, s. w. cor	Low	Single	6	21
1809	Duluth & C. St. P. M. & O. Ry	High	Single	6	56
1810	Jessamine and Rice, n. e. cor	High	Single	6	67
1811	Jessamine and Sylvan, n. w. cor	High	Single	6	48
1812	Winnipeg and Sylvan, n. w. cor	High	Single	6	61
1813	Aurora and Chatsworth, n. e. cor	High	Single	6	46
1814	John and Eighth, s. e. cor	Low	Single	4	46
1815	Olive and Sixth, n. e. cor	Low	Single	4	48
1816	Jessamine and Park ave., n. w. cor	High	Single	6	54
1817	Winnipeg and Park ave., n. w. cor	High	Single	6	62
1818	Winnipeg and Rice, n. e. cor	High	Single	6	63
1819	Winslow and Delos, s. w. cor	Low	Single	6	22
1820	Audubon and Drake, n. w. cor	Low	Single	6	41
1821	University and Ashton	High	Single	16	82
1822	View and James, n. w. cor	Low	Single	6	31
1823	View and Palace, s. w. cor	Low	Single	6	30
1824	Dooley and Raymond, n. e. cor	High	Single	6	21
1825	Capitol and Fairview, n. e. cor	High	Single	6	32
1826	Erie and Jefferson, s. w. cor	Low	Single	6	37
1827	Erie and Cascade, n. w. cor	Low	Single	6	39
1828	Hewitt and Syndicate, n. w. cor	High	Single	6	27
1829	Nugent and C. M. & St. P. Ry Short Line	Low	Single	6	40
1830	Pleasant and Lawton, s. e. cor	Low	Single	6	22
1831	Pleasant and Goodrich, s. e. cor	Low	Single	6	18
1832	Pine and Eighth, s. e. cor	Low	Single	4	45
1833	Langford and Knapp	High	Single	12	38
1834	Langford and Gordon, n. w. cor	High	Single	12	36
1835	Langford and Dooley, n. e. cor	High	Single	12	36
1836	Gordon and Dooley, s. w. cor	High	Single	6	32
1837	Carter and Gordon	High	Single	6	30
1838	Carter and Keston, n. w. cor	High	Single	6	20
1839	Carter, 400 feet east of Keston	High	Single	6	19
1840	Carter and County road, n. w. cor	High	Single	6	27
1841	Keston and Dooley, n. w. cor	High	Single	6	21
1842	Keston and Doswell, s. w. cor	High	Single	6	25
1843	Selby and Saratoga, n. w. cor	High	Single	6	24
1844	Selby and Pascal	High	Single	6	25
1845	Selby and Albert	High	Single	6	26
1846	Selby and Hamline, n. e. cor	High	Single	6	27
1847	Selby and Syndicate, n. e. cor	High	Single	6	26
1848	L'Orient and Minnehaha, s. w. cor	Low	Single	6	34
1849	Hope and Francis, s. w. cor	High	Single	6	43
1850	Selby and Griggs, n. e. cor	High	Single	6	27
1851	Selby and Dunlap, n. e. cor	High	Single	6	29
1852	Selby and Lexington, n. e. cor	High	Single	6	37
1853	Robert and Sixth, s. w. cor	Low	Double	6	46
1854	Robert and Fifth, n. w. cor	Low	Double	6	46
1855	Minnesota and Fifth, n. e. cor	Low	Double	6	44
1856	Minnesota and Sixth, s. e. cor	Low	Double	6	44
1857	Marshall and Milton, n. e. cor	High	Single	12	35
1858	Marshall and Chatsworth, n. e. cor	High	Single	12	39
1859	Marshall and Oxford, n. e. cor	High	Single	12	48
1860	Earl and York, s. w. cor	High	Single	16	57
1861	Earl and Sims, s. w. cor	High	Single	16	50

LIST OF HYDRANTS—Continued.

No.	Location.	Service.	Double or Single Steamer	Size of Pipe	Pressure at Hydrant
1929	Ohio and Baker, n. w. cor.	W. S. H.	Single	6	57
1930	Ohio and King, n. w. cor.	W. S. H.	Single	6	62
1931	Ohio and Stevens, n. w. cor.	W. S. H.	Single	6	66
1932	Ohio and George, n. w. cor.	W. S. H.	Single	6	72
1933	Ohio and Roble, n. w. cor.	W. S. H.	Single	6	79
1934	Ohio and Winifred, s. w. cor.	W. S. H.	Single	6	85
1935	George and Charlton, n. w. cor.	W. S. H.	Single	6	68
1936	George and Seminole.	W. S. H.	Single	6	71
1937	Orleans and Cherokee, s. w. cor.	W. S. H.	Single	6	69
1938	Orleans and Roble, n. w. cor.	W. S. H.	Single	6	68
1939	Orleans and George, n. w. cor.	W. S. H.	Single	6	65
1940	Orleans and Stevens, n. w. cor.	W. S. H.	Single	6	62
1941	Orleans and King, n. w. cor.	W. S. H.	Single	6	54
1942	Orleans and Baker, n. w. cor.	W. S. H.	Single	6	51
1943	Orleans and Morton, n. w. cor.	W. S. H.	Single	6	47
1944	Orleans and Page, n. w. cor.	W. S. H.	Single	6	44
1945	Manomin and Morton, n. w. cor.	W. S. H.	Single	12	46
1946	Manomin and Page, n. w. cor.	W. S. H.	Single	12	43
1947	Manomin and Sidney, n. w. cor.	W. S. H.	Single	12	39
1948	Manomin and Belmont, n. w. cor.	W. S. H.	Single	12	35
1949	Manomin and Winona, n. w. cor.	W. S. H.	Single	12	30
1950	Manomin and Anapolis, n. w. cor.	W. S. H.	Single	12	19
1951	George and Waseca, n. w. cor.	W. S. H.	Single	6	73
1952	George and Manomin, n. w. cor.	W. S. H.	Single	6	65
1953	Cherokee and Baker, s. w. cor.	W. S. H.	Single	6	45
1954	Cherokee and Morton, n. w. cor.	W. S. H.	Single	6	34
1955	Cherokee and Page, n. w. cor.	W. S. H.	Single	6	34
1956	Cherokee and Sidney, n. w. cor.	W. S. H.	Single	6	27
1957	Cherokee and Belmont, n. w. cor.	W. S. H.	Single	6	23
1958	Cherokee and Winona, n. w. cor.	W. S. H.	Single	6	22
1959	Cherokee and Wyoming, n. w. cor.	W. S. H.	Single	6	21
1960	Cherokee and Annapolis, n. w. cor.	W. S. H.	Single	6	18
1961	Sidney and Ottowa, n. w. cor.	W. S. H.	Single	6	32
1962	Hazel and Ames	High	Single	12	22
1963	Hazel, 300 ft. north of Ames	High	Single	12	18
1964	Cherokee and Smith ave., s. w. cor.	W. S. H.	Single	6	67
1965	Cherokee and Ottowa, s. e. cor.	W. S. H.	Single	6	60
1966	Cherokee and Stevens, n. w. cor.	W. S. H.	Single	6	51
1967	Cherokee and King	W. S. H.	Single	6	47
1968	Macalester and Grand, n. w. cor.	High	Single	6	28
1969	Manomin and Wyoming, n. w. cor.	W. S. H.	Single	12	24
1970	Harrison and Lawton, n. e. cor.	Low	Single	6	39
1971	E. Fourth and Cypress, n. w. cor.	High	Single	6	42
1972	E. Fourth and Earl, n. w. cor.	High	Single	6	56
1973	Fairview and Capitol Place, s. w. cor.	High	Single	12	31
1974	Minnehaha and Fairview, n. w. cor.	High	Single	12	38
1975	Minnehaha and Capitol, n. w. cor.	High	Single	12	29
1976	Tatum and Minnehaha, n. w. cor.	High	Single	6	32
1977	Tatum and Chelton, s. w. cor.	High	Single	6	35
1978	Tatum and Chelton, n. w. cor.	High	Single	6	36
1979	Chelton and Pusey, n. w. cor.	High	Single	6	35
1980	Chelton and Prior, n. e. cor.	High	Single	6	34
1981	Dawson and Gotzian, n. w. cor.	High	Single	6	40
1982	Dawson and Terry, n. w. cor.	High	Single	6	65
1983	Dawson and Cypress, n. e. cor.	High	Single	6	46
1984	St. Clair and Cliff, n. w. cor.	Low	Single	6	38
1985	St. Clair and Ann, n. w. cor.	Low	Single	6	39
1986	Fauquier and Greenbrier, n. e. cor.	High	Single	6	70
1987	Fauquier and Walsh, n. e. cor.	High	Single	6	65
1988	Fairview, west end of Edmund	High	Single	12	38
1989	Fairview, west end of Thomas	High	Single	12	36
1990	Fairview, west end of Lafond	High	Single	12	34
1991	Fairview, west end of Blair	High	Single	12	33
1992	Fairview, west end of Van Buren	High	Single	12	32
1993	Grand and C., M. & St. P. R. R. w., end	High	Single	4	28
1994	Wells and Welde, n. w. cor.	High	Single	6	43
1995	Wells and Walsh, S. S. R. Wall	High	Single	4	58
1996	Wells and Greenbrier, S. S. R. Wall	High	Single	4	65
[illegible]	[illegible]ngton, 100 ft. w. of Greenbrier	High	Single	4	73

LIST OF HYDRANTS—Continued.

Number of fire hydrants placed this year on low service	13
Number of fire hydrants placed this year on high service	79
Number of fire hydrants placed this year on West Side high service	7
Total number placed this year	99
Total number placed to date on low service	710
Total number placed to date on high service	1,279
Total number placed to date on West Side high service	78
Grand Total	2,067

Of which 76 on low and 2 on high service are double steamers.

Only two of the old Holly hydrants remain in use; the balance are Mathews. There are also 4 hydrants on the private property of the Northwestern Cordage Company, and 11 on the Walter A. Wood Harvester Company's private property; they are all duplicates of our standard and can be used in case of fire.

LIST OF STREET SPRINKLING HYDRANTS.

No.	Location.	Measurement of Valve from Hydrant.	Name of Hydrant.
1	Sixth and Sibley	10 feet	Stand pipe.
2	Fifth and Wacouta	7½ feet	Stand pipe.
3	Wacouta and Third	6 feet	Stand pipe.
4	Fort and Third	5 feet	Stand pipe.
5	Third and Jackson	5 feet	Stand pipe.
6	Minnesota and Third	5 feet	Stand pipe.
7	Fifth and Robert	6 feet	Stand pipe.
8	Robert and Seventh	7 feet	Stand pipe.
9	Wacouta and Seventh	6 feet	Stand pipe.
10	Ninth and Cedar	7 feet	Stand pipe.
11	Eighth and Broadway	6 feet	Stand pipe.
12	John and Seventh	6 feet	Stand pipe.
13	Walnut and Seventh	5 feet	Stand pipe.
14	Kittson and Seventh	8 feet	Stand pipe.
15	Ninth and St. Peter	5 feet	Stand pipe.
16	Pine and Tenth	9 feet east 30 feet south	Stand pipe.
17	Pine and Grove	8 feet	Stand pipe.
18	Waverly and Westminster	5 feet	Stand pipe.
19	Leech and Seventh	In tunnel	Stand pipe.
20	Broadway and Fourth	7 feet	Stand pipe.
21	Cedar and Seventh	8 feet	Stand pipe.
22	College and Wabasha	8 feet	Stand pipe.
23	College and Tenth	8 feet north 7 feet east	Stand pipe.
24	Pleasant and Third	35 feet south 7 feet west	Stand pipe.
25	St. Peter and Third	In tunnel	Stand pipe.
26	Franklin and Fourth	In tunnel	Stand pipe.
27	Goodrich and Seventh	16 feet	Stand pipe.
28	Eleventh and Robert	4 feet	Stand pipe.
29	Mt. Airy and Mississippi	6 feet	Stand pipe.
30	Burr and Collins	11 feet	Stand pipe.
31	Bradley and Woodward	7 feet	Stand pipe.
32	Martin and Western	8 feet	Stand pipe.
33	St. Albans and Portland	9 feet	Stand pipe.
34	Portland and Summit	31 feet	Stand pipe.
35	Laurel and Farrington	6 feet	Stand pipe.
36	St. Clair and Seventh	10½ feet	Stand pipe.
37	Pleasant and Oakland	31 feet south 32 feet east	Stand pipe.
38	Mackubin and Selby	28 feet	Stand pipe.
39	Summit and Nelson	10 feet	Stand pipe.
40	Mackubin and Summit	14 feet	Stand pipe.
41	Dale and Marshall	8 feet	Stand pipe.
42	Dale and Ashland	27 feet	Stand pipe.
43	Dale and Grand	10 feet	Stand pipe.
44	Marshall and Western	3 feet	Stand pipe.
45	Rondo and Rice	9 feet	Stand pipe.
46	Central and Wabasha	7½ feet	Stand pipe.
47	Mackubin and University	8 feet	Stand pipe.
48	University and Rice	8 feet	Stand pipe.
49	Bates and Seventh	6 feet	Stand pipe.
50	Hudson and Maria	7 feet	Stand pipe.
51	Mendota and Fauquier	7 feet	Stand pipe.
52	Oneida and Seventh	8 feet	Stand pipe.
53	Third and Bates	8 feet	Stand pipe.
54	Fifth and Maria	8 feet	Stand pipe.
55	Chestnut and Franklin	8½ feet	Stand pipe.
56	Twelfth and Jackson	35 feet	Stand pipe.
57	Wacouta and Tenth	5 feet	Stand pipe.
58	Arundel and Holly	29 feet south 6 feet east	Stand pipe.
59	Sherman and Smith	10 feet	Stand pipe.
60	Cedar and Aurora	27 feet	Stand pipe.
61	Sixth and Wabasha	In tunnel	Stand pipe.
62	Eichenwald and Seventh	9 feet	Stand pipe.
63	Sinnen and Seventh	9 feet	Stand pipe.
64	Reaney and Seventh	8 feet	Stand pipe.

LIST OF STREET SPRINKLING HYDRANTS—Continued.

No.	Location.	Measurement of Valve from Hydrant.	Name of Hydrant.
65	Earl and Seventh	6 feet	Stand pipe.
66	Locust and Ninth	11 feet	Stand pipe.
67	Walnut and Summit	52 feet	Stand pipe.
68	Ninth and Fort	8 feet	Stand pipe.
69	Grove and Canada	5 feet	Stand pipe.
70	Mendota and Seventh	9 feet	Stand pipe.
71	Jackson and Fourteenth	9 feet	Stand pipe.
72	John and Fourth	6 feet	Stand pipe.
73	Maple and Conway	8 feet	Stand pipe.
74	Farrington and Carroll	90 feet	Stand pipe.
75	Topping and Como	.....	Stand pipe.
76	Viola and Grant	26 feet	Stand pipe.
77	Capitol and Western	.....	.....
78	Acker and Mississippi	6 feet	Stand pipe.
79	Payne and Minnehaha	10 feet	Stand pipe.
80	Fairfield and Dakota	8½ feet	Stand pipe.
81	Audubon and Seventh	8 feet	Stand pipe.
82	Rice and Como	8 feet	Stand pipe.
83	Rice and G. N. Ry	7 feet	Stand pipe.
84	Williams and Pine	22 feet	Stand pipe.
85	Olmsted and Olive	33 feet	Stand pipe.
86	Neill and Fifth	12 feet west 36 feet south	Stand pipe.
87	Canada and University	23 feet	Stand pipe.
88	Warren and Valley	4 feet east 32 feet west	Stand pipe.
89	Gaultier and University	7 feet east 34 feet south	Stand pipe.
90	Virginia and University	3 feet east 33 feet south	Stand pipe.
91	Farrington and Nelson	26 feet west	Stand pipe.
92	Oakland and Flora	6 feet	Stand pipe.
93	Mackubin and Iglehart	8 feet	Stand pipe.
94	Acker and Elk	6 feet	Stand pipe.
95	Summit and Cedar	7 feet south 12 feet west	Stand pipe.
96	Iglehart and St. Peter	28 feet	Stand pipe.
97	Ninth and Jackson	29 feet north	Stand pipe.
98	Sherman and Exchange	7 feet	Stand pipe.
99	Summit Place and Iglehart	22 feet	Stand pipe.
100	Summit Place and Martin	28 feet	Stand pipe.
101	Jay and Fuller	8 feet	Stand pipe.
102	Dale and University	8 feet	Stand pipe.
103	St. Albans and Hague	7 feet	Stand pipe.
104	Hoffman and Sixth	8 feet	Stand pipe.
105	Hoffman and Cherry	10 feet	Stand pipe.
106	River and Hoffman	10 feet	Stand pipe.
107	University and Snelling	31 feet	Stand pipe.
108	Carroll and Dale	5 feet	Stand pipe.
109	Grand and Floral	30 feet	Stand pipe.
110	Dale and Selby	9 feet	Stand pipe.
111	Farrington and Sherburne	7 feet	Stand pipe.
112	Mackubin and Fuller	5 feet	Stand pipe.
113	Mackubin and St. Anthony	9 feet	Stand pipe.
114	Harrison and Garfield	10 feet	Stand pipe.
115	Charles and Western	10 feet	Stand pipe.
116	Marion and Charles	8 feet	Stand pipe.
117	Granite and Mississippi	9 feet	Stand pipe.
118	Sixth and Broadway	7 feet	Stand pipe.
119	Minnehaha and Burr	13 feet north 26 feet east	Stand pipe.
120	Bedford and Decatur	30 feet	Stand pipe.
121	Burr and Hopkins	6 feet	Stand pipe.
122	Maple and Hudson	7 feet	Stand pipe
123	Goodhue and Richmond	32 feet	Stand pipe.
124	Duke and Seventh	7 feet	Stand pipe.
125	Earl and Minnehaha	7 feet	Stand pipe.
126	Arcade and Reaney	7 feet	Stand pipe.

LIST OF STREET SPRINKLING HYDRANTS—Continued.

No.	Location.	Measurement of Valve from Hydrant.	Name of Hydrant.
127	Otsego and Lafayette	6 feet	Stand pipe.
128	Cedar and Fifth	7 feet	Stand pipe.
129	Grotto and Dayton	6 feet	Stand pipe.
130	Grove and Monroe Place	5 feet	Stand pipe.
131	Fauquier and Weide	9 feet	Stand pipe.
132	Arundel and Rondo	9 feet	Stand pipe.
133	Arcade and York	7 feet	Stand pipe.
134	Broadway and Thirteenth	6 feet	Stand pipe.
135	Robert and University	10 feet	Stand pipe.
136	Como and Eifelt	10 feet	Stand pipe.
137	Congress and Robert	8 feet	Stand pipe.
138	Lee and Bay	9 feet	Stand pipe.
139	Fillmore and Robert	7 feet	Stand pipe.
140	Grotto and Grand	6 feet	Stand pipe.
141	Robert and Wood	9 feet	Stand pipe.
142	Anita and Concord	7 feet	Stand pipe.
143	Robie and Concord	37 feet	Stand pipe.
144	Reaney and Greenbrier	8 feet	Stand pipe.
145	Victoria and Summit	43 feet south	Stand pipe.
146	Dakota, south of Channel	8 feet	Stand pipe.
147	Isabel and Dakota	6 feet	Stand pipe.
148	Chicago and Robert	8 feet	Stand pipe.
149	Sherburne and Park	3 feet	Stand pipe.
150	Virginia and Rondo	7 feet	Stand pipe.
151	Front and Dale	5 feet	Stand pipe.
152	Lafond and Western	8 feet	Stand pipe.
153	Front and Rice	6 feet	Stand pipe.
154	Kent and Laurel	4 feet	Stand pipe.
155	Grotto and Holly	6 feet	Stand pipe.
156	Western and Goodrich	8 feet	Stand pipe.
157	Cook and Payne	7 feet	Stand pipe.
158	York and Payne	6 feet	Stand pipe.
159	University and Victoria	28 feet	Stand pipe.
160	University and Lexington	28 feet	Stand pipe.
161	Third and John	10 feet	Stand pipe.
162	Tuscarora and Seventh	7 feet	Stand pipe.
163	Eifelt and Edmund	8 feet	Stand pipe.
164	Mackubin and Edmund	9 feet	Stand pipe.
165	Dale and Martin	8 feet	Stand pipe.
166	Whitall and Burr	31 feet	Stand pipe.
167	Mississippi and Case	9 feet	Stand pipe.
168	Mississippi and Jessamine	7 feet	Stand pipe.
169	University and Hamline	28 feet	Stand pipe.
170	Taylor and Snelling	9 feet	Stand pipe.
171	Van Buren and Snelling	7 feet	Stand pipe.
172	Prior and Oakley	31 feet	Stand pipe.
173	St. Anthony and Terrace Park ave.	30 feet	Stand pipe.
174	Iglehart and Prior	5 feet	Stand pipe.
175	Jackson and Arch	30 feet	Stand pipe.
176	Grotto and Carroll	9 feet	Stand pipe.
177	Franklin and Sixth	4 feet	Stand pipe.
178	Duluth and Seventh	8 feet	Stand pipe.
179	Cypress and Euclid	8 feet	Stand pipe.
180	State and Tennessee	31 feet south 12 feet east	Stand pipe.
181	Osceola and Pleasant	7 feet	Stand pipe.
182	Raymond and Hampden Park	14 feet	Stand pipe.
183	Raymond and University	7 feet	Stand pipe.
184	University and Pillsbury	21 feet	Stand pipe.
185	Raymond and Gordon	35 feet	Stand pipe.
186	Lexington and Van Slyke	35 feet	Stand pipe.
187	Fairview and University	11 feet	Stand pipe.
188	Chatsworth and University	6 feet	Stand pipe
189	Grotto and Sherburne	7 feet	Stand pipe.
190	Whitall and Edgerton	30 feet	Stand pipe.
191	Edgerton and Jenks	31 feet	Stand pipe.
192	Snelling and Summit	25 feet	Stand pipe.
193	Indiana and Hyde	7 feet	Stand pipe.

LIST OF STREET SPRINKLING HYDRANTS—Continued.

No.	Location.	Measurement of Valve from Hydrant.	Name of Hydrant.
65	Earl and Seventh	6 feet	Stand pipe.
66	Locust and Ninth	11 feet	Stand pipe.
67	Walnut and Summit	52 feet	Stand pipe.
68	Ninth and Fort	8 feet	Stand pipe.
69	Grove and Canada	5 feet	Stand pipe.
70	Mendota and Seventh	9 feet	Stand pipe.
71	Jackson and Fourteenth	9 feet	Stand pipe.
72	John and Fourth	6 feet	Stand pipe.
73	Maple and Conway	8 feet	Stand pipe.
74	Farrington and Carroll	20 feet	Stand pipe.
75	Topping and Como	.....	Stand pipe.
76	Viola and Grant	26 feet	Stand pipe.
77	Capitol and Western	.....	.....
78	Acker and Mississippi	6 feet	Stand pipe.
79	Payne and Minnehaha	10 feet	Stand pipe.
80	Fairfield and Dakota	8½ feet	Stand pipe.
81	Audubon and Seventh	8 feet	Stand pipe.
82	Rice and Como	8 feet	Stand pipe.
83	Rice and G. N. Ry	7 feet	Stand pipe.
84	Williams and Pine	22 feet	Stand pipe.
85	Olmsted and Olive	33 feet	Stand pipe.
86	Neill and Fifth	12 feet west 36 feet south	Stand pipe.
87	Canada and University	23 feet	Stand pipe.
88	Warren and Valley	4 feet east 32 feet west	Stand pipe.
89	Gaultier and University	7 feet east 34 feet south	Stand pipe.
90	Virginia and University	3 feet east 33 feet south	Stand pipe.
91	Farrington and Nelson	26 feet west	Stand pipe.
92	Oakland and Flora	6 feet	Stand pipe.
93	Mackubin and Iglehart	8 feet	Stand pipe.
94	Acker and Elk	6 feet	Stand pipe.
95	Summit and Cedar	7 feet south 12 feet west	Stand pipe.
96	Iglehart and St. Peter	28 feet	Stand pipe.
97	Ninth and Jackson	29 feet north	Stand pipe.
98	Sherman and Exchange	7 feet	Stand pipe.
99	Summit Place and Iglehart	22 feet	Stand pipe.
100	Summit Place and Martin	28 feet	Stand pipe.
101	Jay and Fuller	8 feet	Stand pipe.
102	Dale and University	8 feet	Stand pipe.
103	St. Albans and Hague	7 feet	Stand pipe.
104	Hoffman and Sixth	8 feet	Stand pipe.
105	Hoffman and Cherry	10 feet	Stand pipe.
106	River and Hoffman	10 feet	Stand pipe.
107	University and Snelling	31 feet	Stand pipe.
108	Carroll and Dale	5 feet	Stand pipe.
109	Grand and Floral	30 feet	Stand pipe.
110	Dale and Selby	9 feet	Stand pipe.
111	Farrington and Sherburne	7 feet	Stand pipe.
112	Mackubin and Fuller	5 feet	Stand pipe.
113	Mackubin and St. Anthony	9 feet	Stand pipe.
114	Harrison and Garfield	10 feet	Stand pipe.
115	Charles and Western	10 feet	Stand pipe.
116	Marion and Charles	8 feet	Stand pipe.
117	Granite and Mississippi	9 feet	Stand pipe.
118	Sixth and Broadway	7 feet	Stand pipe.
119	Minnehaha and Burr	13 feet north 26 feet east	Stand pipe.
120	Bedford and Decatur	30 feet	Stand pipe.
121	Burr and Hopkins	6 feet	Stand pipe.
122	Maple and Hudson	7 feet	Stand pipe
123	Goodhue and Richmond	32 feet	Stand pipe.
124	Duke and Seventh	7 feet	Stand pipe.
125	Earl and Minnehaha	7 feet	Stand pipe.
126	Arcade and Reaney	7 feet	Stand pipe.

LIST OF STREET SPRINKLING HYDRANTS—Continued.

No.	Location.	Measurement of Valve from Hydrant.	Name of Hydrant.
127	Otsego and Lafayette	6 feet	Stand pipe.
128	Cedar and Fifth	7 feet	Stand pipe.
129	Grotto and Dayton	6 feet	Stand pipe.
130	Grove and Monroe Place	5 feet	Stand pipe.
131	Fauquier and Weide	9 feet	Stand pipe.
132	Arundel and Rondo	9 feet	Stand pipe.
133	Arcade and York	7 feet	Stand pipe.
134	Broadway and Thirteenth	6 feet	Stand pipe.
135	Robert and University	10 feet	Stand pipe.
136	Como and Elfelt	10 feet	Stand pipe.
137	Congress and Robert	8 feet	Stand pipe.
138	Lee and Bay	9 feet	Stand pipe.
139	Fillmore and Robert	7 feet	Stand pipe.
140	Grotto and Grand	6 feet	Stand pipe.
141	Robert and Wood	9 feet	Stand pipe.
142	Anita and Concord	7 feet	Stand pipe.
143	Robie and Concord	37 feet	Stand pipe.
144	Reaney and Greenbrier	8 feet	Stand pipe.
145	Victoria and Summit	43 feet south	Stand pipe.
146	Dakota, south of Channel	8 feet	Stand pipe.
147	Isabel and Dakota	6 feet	Stand pipe.
148	Chicago and Robert	8 feet	Stand pipe.
149	Sherburne and Park	3 feet	Stand pipe.
150	Virginia and Rondo	7 feet	Stand pipe.
151	Front and Dale	5 feet	Stand pipe.
152	Lafond and Western	8 feet	Stand pipe.
153	Front and Rice	6 feet	Stand pipe.
154	Kent and Laurel	4 feet	Stand pipe.
155	Grotto and Holly	6 feet	Stand pipe.
156	Western and Goodrich	8 feet	Stand pipe.
157	Cook and Payne	7 feet	Stand pipe.
158	York and Payne	6 feet	Stand pipe.
159	University and Victoria	28 feet	Stand pipe.
160	University and Lexington	28 feet	Stand pipe.
161	Third and John	10 feet	Stand pipe.
162	Tuscarora and Seventh	7 feet	Stand pipe.
163	Elfelt and Edmund	8 feet	Stand pipe.
164	Mackubin and Edmund	9 feet	Stand pipe.
165	Dale and Martin	8 feet	Stand pipe.
166	Whitall and Burr	31 feet	Stand pipe.
167	Mississippi and Case	9 feet	Stand pipe.
168	Mississippi and Jessamine	7 feet	Stand pipe.
169	University and Hamline	28 feet	Stand pipe.
170	Taylor and Snelling	9 feet	Stand pipe.
171	Van Buren and Snelling	7 feet	Stand pipe.
172	Prior and Oakley	31 feet	Stand pipe.
173	St. Anthony and Terrace Park ave.	30 feet	Stand pipe.
174	Iglehart and Prior	5 feet	Stand pipe.
175	Jackson and Arch	30 feet	Stand pipe.
176	Grotto and Carroll	9 feet	Stand pipe.
177	Franklin and Sixth	4 feet	Stand pipe.
178	Duluth and Seventh	8 feet	Stand pipe.
179	Cypress and Euclid	8 feet	Stand pipe.
180	State and Tennessee	31 feet south 12 feet east	Stand pipe.
181	Osceola and Pleasant	7 feet	Stand pipe.
182	Raymond and Hampden Park	14 feet	Stand pipe.
183	Raymond and University	7 feet	Stand pipe.
184	University and Pillsbury	21 feet	Stand pipe.
185	Raymond and Gordon	35 feet	Stand pipe.
186	Lexington and Van Slyke	35 feet	Stand pipe.
187	Fairview and University	11 feet	Stand pipe.
188	Chatsworth and University	6 feet	Stand pipe
189	Grotto and Sherburne	7 feet	Stand pipe.
190	Whitall and Edgerton	30 feet	Stand pipe.
191	Edgerton and Jenks	31 feet	Stand pipe.
192	Snelling and Summit	25 feet	Stand pipe.
193	Indiana and Hyde	7 feet	Stand pipe.

LIST OF STREET SPRINKLING HYDRANTS—Continued.

No.	Location.	Measurement of Valve from Hydrant.	Name of Hydrant.
194	Dale and Charles	4 feet	Stand pipe.
195	Mt. Hope and Prescott	75 feet north 7 feet west	Stand pipe.
196	Geranium and Edgerton	33 feet	Stand pipe.
197	Jessamine and Greenbrier	33 feet	Stand pipe.
198	Case and Burr	30 feet	Stand pipe.
199	Victoria and Goodrich	8 feet	Stand pipe.
200	Grotto and Goodrich	39 feet south 9 feet west	Stand pipe.
201	Dale and Goodrich	32 feet	Stand pipe.
202	Cliff and Goodhue	38 feet	Stand pipe.
203	Midway and Woodbury	23 feet	Stand pipe.
204	Concord and Andrew	8 feet	Stand pipe.
205	Greenbrier and Case	6 feet	Stand pipe.
206	York and DeSoto	31 feet	Stand pipe.
207	Westminster and Lookout Place	10 feet	Stand pipe.
208	Mound and Hastings	6 feet	Stand pipe.
209	Carroll and Arundel	7 feet	Stand pipe.
210	Daly and James	10 feet	Stand pipe.
211	Minnehaha and Hope	30 feet	Stand pipe.
212	Randolph and Fulton	8 feet	Stand pipe.
213	McBoal and Smith ave	8 feet	Stand pipe.
214	Congress and State	28 feet	Stand pipe.
215	Milford and Rice	22 feet	Stand pipe.
216	Sycamore and Jackson	30 feet	Stand pipe.
217	Minnehaha and Dale	36 feet	Stand pipe.
218	Fourth and St. Paul and Duluth Ry	7 feet	Stand pipe.
219	Forrest and York	7 feet	Stand pipe.
220	Sycamore and Park	32 feet	Stand pipe.
221	Lafond and Kent	6 feet	Stand pipe.
222	Erie and St. Clair	8 feet	Stand pipe.
223	Eagle and Washington	6 feet	Stand pipe.
224	Tuscarora and Stewart	24 feet	Stand pipe.
225	Victoria, between Selby and Hague	6 feet	Stand pipe.
226	Bellows and Winifred	7 feet	Stand pipe.
227	Front and Grotto	7 feet	Stand pipe.
228	Oxford and Summit	52 feet south 9 feet west	Stand pipe.
229	Summit and Griggs	40 feet	Stand pipe.
230	Concord and Curtis	7 feet	Stand pipe.
231	George and Hall	9 feet	Stand pipe.
232	Dale and Atwater	7 feet	Stand pipe.
233	Summit and Albert	40 feet	Stand pipe.
234	Fisk and Laurel	38 feet south 8 feet west	Stand pipe.
235	Mound and Clermont	8 feet	Stand pipe.
236	Fairview and Marshall	46 feet south 8 feet east	Stand pipe.
237	Laura and Rondo	57 feet north 9 feet east	Stand pipe.
238	Cleveland and Marshall	6 feet	Stand pipe.
239	Raymond and Kendrick	9 feet	Stand pipe.
240	Churchill and Front	3 feet	Stand pipe.
241	Cross and Van Slyke	7 feet	Stand pipe.
242	Front and Colne	7 feet	Stand pipe.
243	Avon and Osceola	9 feet east 36 feet south	Stand pipe.
244	Avon and St. Anthony	6 feet	Stand pipe.
245	Wilder and Rondo	36 feet	Stand pipe.
246	Bunker and Oakdale	25 feet	Stand pipe.

Number placed this year 12
Total placed to date 246

LOCATION OF VALVES (LOW SERVICE).

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch.	36-Inch.
Alabama	East line of State			1						
Armstrong	East and west line of Seventh			2						
Armstrong	East and west line of Victoria			2						
Audubon	East line of Seventh			1						
Ada	North line of Robie		1							
Banfil	East and west line of Seventh		2							
Banfil	West line of Western		1							
Bay	South line of Seventh			1						
Bay	South line of Lee			1						
Bay	South line of Tuscaroa			1						
Bay	North line of Stewart			1						
Beaumont	East line of DeSoto			1						
Beaumont	East and west line of Bedford			2						
Becker Pl	South line of Lafayette			1						
Bedford	North line of North			1						
Bedford	South line of Minnehaha			1						
Bradley	North line of Partridge			1						
Bradley	North line of Beaumont		1							
Broadway	On hydrant in Mil. freight yard		1							
Broadway	N. and S. line of Third, M. H. & B. O	1	1			2				
Broadway	N. and S. line of Seventh, M. & H		1	2		1		1		
Broadway	Blow-off at Ninth			1						
Broadway	South line of Grove			2				1		
Broadway	North line of Thirteenth		1							
Bruno	East line of Lafayette			1						
Burr	South line of Hopkins			1						
Burr	South line of North			1						
Burr	North line of Collins			1						
Burr	North line of Beaumont			1						
Burr	South line of Fauquier			1						
Bancroft	North line of Concord			1						
Bancroft	North line of Robie			1						
Bancroft	North line of Winifred			1						
Bidwell	South line Isabel			1						
Canada	North line of Ninth			1						
Canada	North and South line of Grove			2						
Cedar	North line of Third				1					
Cedar	Blow-off at Sixth	1								
Cedar	North and south line of Seventh				2					
Cedar	Blow-off at Eighth	1								
Cedar	South line of Tenth				1					
Cedar	North and south line of Twelfth			1			1			
Chestnut	North line of Franklin			1						
Chestnut	South line of Seventh			1						
Colborne	North line of Seventh			1						
Colborne	North line of St. Clair			1						
College	West line of Cedar			1						
College	West line of Wabasha			1						
College	West line of St. Peter			1						
College	West line of Tenth			1						
Collins	West line of Bedford			1						
Collins	East line of Lafayette			1						
Concord	East line of Bancroft				1					
Concord	East and west line of State				2					
Concord	South line of Isabel				1					
Concord	West line of Hoyt				1					
Congress	West line of Anita			1						
Congress	East and west line of State			2						
Congress	East line of Clinton			1						
Congress	East and west line of Concord			2						
Congress	East line of Wabasha			1						
Congress	West line of Goff			1						
Congress	East line of Stryker			1						
Congress	East line of Winslow			1						
Congress	East line of Bellows			1						
Chicago	East and west line of Starkey			2						
Colorado	West line of Clinton			1						
Colorado	East line of Livingston			1						
Clinton	South line of Congress			1						
Decatur	East line of Bedford			1						

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6 Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch	36-Inch
De Soto	South line of Collins			1						
Douglas	North and south line of Seventh			2						
Douglas	South line of Lisbon			1						
Duke	South line of Seventh			1						
Duke	South line of Jefferson			1						
Dousman	South line of Goodhue			1						
Dousman	North line of VonMinden			1						
Delos	West line of Clinton			1						
Delos	East line of Livingston			1						
Delos	East and west line of Starkey			2						
Delos	East line of Stryker			1						
Delos	East line of Bidwell			1						
Daly	North line of James			1						
Dearborn	East line of Livingston			1						
Eagle	North line of Washington			1						
Eagle	South line of Exchange			1						
Eagle	South line of Seventh			1						
Eighth	112 feet east of Neill B. O.	1								
Eighth	East and west line of Locust		2							
Eighth	East and west line of Broadway		4							
Eighth	West line of Sibley		1							
Eighth	East and west line of Jackson		2							
Eighth	East line of Minnesota		1							
Eighth	East and west line of Cedar		2							
Eighth	East line of Wabasha		1							
Eleventh	East line of Broadway		2							
Eleventh	West line of Jackson			1						
Eleventh	West line of Robert			1						
Eleventh	East line of Cedar			1						
Elm	East line of Exchange		1							
Exchange	East and west line of St. Peter		2							
Exchange	South line of Ninth		1							
Exchange	North line of Seventh		1							
Exchange	North and south line of Third		2							
Exchange	South line of Eagle		1							
Exchange	South line of Chestnut		1							
Exchange	North line of Sherman		1							
Exchange	Centre of Wilkin		1							
Edgerton	North line of Minnehaha			1						
Erie	North line of Seventh			1						
Fairfield	West line of State			1						
Fairfield	East line of Eva			1						
Fairfield	West line of Eaton			1						
Fairfield	West line of Hubert			1						
Fairfield	East and west line of Starkey			2						
Fairfield	West line of Dakota			1						
Fauquier	East line of DeSoto				1					
Fifth	West line of Neill			1						
Fifth	West line of Willius			1						
Fifth	East line of John			1						
Fifth	West line of Olive			1						
Fifth	East and west line of Broadway		1	1						
Fifth	West line of Rosabel		1							
Fifth	East line of Sibley		1							
Fifth	East and west line of Jackson		2							
Fifth	East line of Minnesota		1							
Fifth	East and west line of Cedar		2							
Fifth	East and west line of Wabasha		1	1						
Fifth	West line of St. Peter		1							
Fifth	West line of Washington		1							
Fifth	East line of Seventh		1							
Fifth	East and west line of Fort		2							
Fifth	East line of Smith avenue		1							
Fort	North line of Third, M. H. & B. O.		2				1			
Fort	South line of Fifth on H		1							
Fort	South line of Sixth on H		1							
Fort	South line of Ninth, M. & H		1				1			
Fort	On H, between Ninth and Tenth		1							
Fourth	East of St. P. & D. Ry on H			1						
Fourth	East and west line of Kittson				2					
Fourth	B. O. at Neill	1								

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3 Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20 Inch.	24-Inch.	30-Inch.	36-Inch.
Fourth	West line of Locust				1					
Fourth	East and west line of Broadway			1	1					
Fourth	West line of Rosabel			1						
Fourth	West line of Wacouta			1						
Fourth	East and west line of Jackson			2						
Fourth	East line of Minnesota			1						
Fourth	East and west line of Cedar			2						
Fourth	West line of Wabasha			1						
Fourth	West line of Market			1						
Fourth	East line of Franklin			1						
Fourteenth	East and west line of Canada			2						
Fourteenth	East line of Jackson			1						
Franklin	North line of Sherman		1							
Franklin	North line of Irvine Park drive		1							
Franklin	North line of Third		1							
Franklin	North line of Fourth		1							
Franklin	North and south line of Seventh		2							
Franklin	South line of Ninth		1							
Fillmore	West line of State			1						
Fillmore	East line of Eva			1						
Fillmore	East line of Robert			1						
Fillmore	West line of Hubert			1						
Fillmore	East and west line of Starkey			2						
Fred	East line of Burr		1							
Garfield	North line of Goodrich			1						
Goodhue	East and west line of Seventh			2						
Goodhue	East line of Richmond			1						
Goodrich	East and west line of Seventh, M & B. O	1		1	1					
Grace	East line of Seventh			1						
Grove	West line of Lafayette			1						
Grove	West line and center of Mississippi, M. H. & B. O		2				2			
Grove	West of Canada on H		1							
Grove	East line of Jackson						1			
Glencoe	West line of Mississippi			1						
Glencoe	East line of Columbia			1						
George	West line of State				1					
George	West line of Livingston				1					
George	East line of Stryker				1					
George	Dividing line between L. & H. W. S. on Stryker ave			1						
Goff	North line of Winifred			1						
Harrison	West line of Douglas			1						
Harrison	West line of Garfield			1						
Hopkins	West line of Bradley			1						
Hopkins	East line of DeSoto			1						
Hall	North line of George			1						
Hall	North line of Robie			1						
Hall	South line of Congress			1						
Hall	North and south lines of Isabel			2						
Hall	South line of Colorado			1						
Indiana	West line of State					1				
Indiana	West line of Eaton					1				
Indiana	East and west line of Starkey				1	1				
Indiana	West line of Water				1					
Isabel	West line of State				1					
Isabel	East and west line of Starkey				2					
Isabel	West line of Winslow				1					
Jackson	North line of Levee and Levee M. & B. O	1	1							
Jackson	South line of Fourth				1					
Jackson	North and South line of Seventh				2					
Jackson	South line of Ninth				1					
Jackson	South line of Twelfth				1					
Jackson	North line of Grove			1						
Jackson	South line of Fourteenth			1						
Jefferson	East and west line of Seventh			1	1					
James	East and west line of Seventh			2						
James	South line of Warsaw			1						

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch.	36-Inch.
Jessie	South line of Fauquier			1						
John	North line of Third			1						
John	North line of Fourth			1						
John	North line of Fifth			1						
John	North and south line of Seventh		1	1						
John	South line of Tenth		1							
John	North and south line of Grove		2							
John	North and south line of Olmsted			2						
Kittson	North line of Fourth			1						
Kittson	North line of Fifth			1						
Kittson	South line of Seventh			1						
Kentucky	East line of State			1						
Lafayette	North line of Woodward on H		1							
Lafayette	North and south line of Bruno					2				
Lafayette	Northern Pacific track B. O		1							
Lafayette	South line of Collins					1				
Lee ave	East line of Seventh			1						
Lee ave	West line of Warsaw			1						
Leech	North line of Goodrich			1						
Leech	North line of McBoal			1						
Leech	North line of Seventh			1						
Leech	15 feet south of north line of Ramsey			1						
Locust	North line of Seventh, M. & H			1						
L'Orient	North line of Thirteenth			1						
L'Orient	South line of Mt. Airy			1						
L'Orient	North line of Glencoe			1						
Livingston	North line of Delos			1						
Lisbon	West line of Douglas			1						
Logan	East line of Canton			1						
McBoal	West line of Wilkin			1						
McBoal	East line of Smith avenue			1						
McBoal	East and west line of Seventh			2						
Magnolia	Centre of Mississippi			1						
Market	North line of Third		1							
Minnehaha	East line of Jessie			1						
Minnehaha	East line of Burr			1						
Minnehaha	East and west line of DeSoto			1						
Minnesota	North line of Third			1						
Minnesota	South line of Fifth			1						
Minnesota	North and south line of Seventh		1	1						
Minnesota	South line of Tenth		1							
Minnesota	South line of Eleventh		1							
Minnesota	South line of Twelfth		1							
Mississippi	North line of Grove, M. & B. O			3					1	
Mississippi	North line of Nash			1						
Mississippi	North line of Glencoe			1						
Mississippi	South line of Minnehaha			2						
Mississippi	South of north abutment of G. N. Ry. B. O			1						
Mississippi	South of Capitol, M. D. H. & L			2					1	
Mississippi	South of Cayuga, D. H. & L			2						
Mississippi	North of N. P. Ry., M. & B. O			3						
Mississippi	North and south line of Magnolia			2					1	
Mt. Airy	West of Mississippi			1						
Mt. Ida	West line of DeSoto			1						
Michigan	West line of Seventh			1						
Mayall alley	South line of Ninth		1							
Midway	West line of Woodbury			1						
Midway	East line of Oakdale			1						
Nash	East and west line of Mississippi			4						
Neill	North line of Seventh		1							
Ninth	West line of Neill		1							
Ninth	East and west line of Locust		1	1						
Ninth	East and west line of Broadway			4						
Ninth	West line of Sibley			1						
Ninth	East and west line of Jackson			2						
Ninth	East line of Minnesota			1						
Ninth	East and west line of Cedar			2						
Ninth	East line of Wabasha		1							
Ninth	West line of St. Peter			1						

LOCATION OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch	20-Inch.	24-Inch.	30-Inch.	36-Inch.
St. Peter	North and south line of Tenth			2						
St. Peter	North line of College, D. H. & L. S.			1						
Seventh	West line of Kittson			1						
Seventh	East and west line of Locust			1		1				
Seventh	East and west line of Broadway					2				
Seventh	East and west line of Jackson					2				
Seventh	Centre of Robert B. O	1								
Seventh	East line of Wabasha					1				
Seventh	East line of St. Peter				1					
Seventh	East line of Third				1					
Seventh	West line of Eagle					1	1			
Seventh	West line of Chestnut on H			1						
Seventh	At Walnut, H. & B. O	1		2						
Seventh	North and south line of Ramsey, M. & H			1	1	1	1			
Seventh	West line of Leech				1					
Seventh	South line of McBoal					1				
Seventh	At Goodrich B. O	1								
Seventh	North line of Yankee					1				
Seventh	South line of Milwaukee Ry., M. & H.		1			1				
Seventh	At Jefferson, H. & B. O	1	1							
Seventh	South line of Palace					1				
Seventh	At James B. O	1								
Seventh	South line of Audubon					1				
Seventh	At Lee B. O	1								
Sherman	South line of Exchange			1						
Sherman	South line of Wilkin			1						
Sherman	North and south line of Seventh			2						
Sherman	South line of Pleasant			1						
Sibley	North and south line of Third		1	1						
Sibley	South line of Fifth			1						
Sibley	North and south line of Seventh		1	1						
Sibley	North line of Ninth		1							
Sibley	North line of Tenth		1							
Sibley	North line of Spruce		1							
Sixth	West line of Kittson		1							
Sixth	West line of Neill		1							
Sixth	West line of Willius		1							
Sixth	East line of John		1							
Sixth	East line of Olive		1							
Sixth	East and west line of Broadway		2							
Sixth	West line of Rosabel		1							
Sixth	East line of Sibley		1							
Sixth	East and west line of Jackson		2							
Sixth	East line of Robert		1							
Sixth	East line of Minnesota		1							
Sixth	East and west line of Cedar		2							
Sixth	East and west line of Wabasha		2							
Sixth	East line of Washington			1						
Sixth	South line of Seventh			1						
Sixth	East line of Exchange			1						
Sixth	East and west line of Fort			2						
Sixth	North line of Smith ave			1						
Smith st	West line of Wilkin			1						
Smith st	East and West line of Seventh			2						
Smith st	West line of Smith ave			1						
Smith ave	North and south line of Seventh			2						
Smith ave	North line of Smith ave			1						
Smith ave	North line of Ramsey			1						
Smith ave	North line of Sherman			1						
Smith ave	North line of Walnut			1						
Smith ave	North and south line of Third			2						
Smith ave	North line of Sixth			1						
Somerset	West line of John		1							
Somerset	East line of Pine		1							
State	South of Page					1				
State	South line of Elizabeth on H			1						
State	N'th and s'th line of Louisa, M. & H			1		1				
State	North and south line of Concord					2				
State	North line of Isabel					1				
State	North line of Morrison					1				

LIST OF VALVES (LOW SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch.	36-Inch
Willius	South line of Seventh		1							
Wilkin	North line of Smith			1						
Winifred	East line of Bancroft			1						
Winifred	West line of Anita			1						
Winifred	East and west line of State			2						
Winifred	East line of Clinton			1						
Winifred	East line of Concord			1						
Winifred	West line of Hall			1						
Winifred	East line of Winslow			1						
Winifred	East line of Bellows			1						
Woodward	West line of Lafayette		1							
Woodward	West line of Bradley		1							
Wabasha	North and south line of Isabel			2						
Wabasha	North line of Colorado			1						
Wabasha	North line of Plato			1						
Wabasha	North and south line of Indiana			2						
Wabasha	North and south line of Third			2						
Wabasha	South line of Fifth			1						
Wabasha	At Seventh			1						
Wabasha	North line of Ninth			1						
Wabasha	North and south line of Tenth			2						
Wabasha	North line of College			1						
Watson	East and west line of Victoria			2						
Winslow	North line of Isabel			1						
Yankee	West line of Dousman		1							
Yankee	East line of Seventh		1							
M. line, old	Gate house at Lake Phalen							1		
M. line, old	South line of Omaha Ry. R. V. & B. O.			2						
M. line, old	East line of Frank							1		
M. line, old	Seventh, east line of Earl	1				1				
M. line, old	East of Cypress B. O	1								
M. line, old	East of Walsh B. O	1								
M. line, old	Payne and Ross					1				
		16	154	408	50	33	10	4	5	1

Number of valves laid this year 6
Total number of valves on low service 681

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch.	36-Inch.
Buffalo	South line of Granite			1						
Canada	North line of University			1						
Canada	South line of Valley			1						
Capitol	West line of Mississippi			1						
Capitol	East line of Cortland			1						
Capitol	East and west line of Jackson			2						
Capitol	West line of Western			1						
Capitol	West line of Pascal			1						
Capitol	West line of Simpson			1						
Capitol	East and west line of Snelling			2						
Capitol	East line of Aldine			1						
Capitol	East line of Cleveland			1						
Carroll	West line of Rice			1						
Carroll	East line of Louis			1						
Carroll	West line of Farrington			1						
Carroll	East and west line of Western			2						
Carroll	East line of Mackubin			1						
Carroll	East and west line of Dale			2						
Carroll	East line of Grotto			1						
Carroll	West line of Avon			1						
Carroll	East and west line of Victoria			2						
Carroll	West line of Snelling			1						
Carroll	East and west line of Fairview			2						
Carroll	East and west line of Prior			2						
Carroll	East line of Cleveland			1						
Conway	East and west line of Mendota			2						
Conway	East line of Maple			1						
Conway	East and west line of Bates			2						
Cedar	North and south line of Central			2						
Cedar	North and south line of University			2						
Cedar	South line of Viola			1						
Central ave.	East line of Cedar			1						
Central ave.	West line of Wabasha			1						
Central ave.	West line of St. Peter		1							
Central ave.	East line of Rice		1							
Central P. D., E. & W.	South of Central avenue		2							
Charles	West line of Rice			1						
Charles	West line of Gaultier			1						
Charles	East and west line of Western			2						
Charles	East line of Mackubin			1						
Charles	East and west line of Dale			2						
Charles	East line of Grotto			1						
Charles	East and west line of Victoria			2						
Charles	West line of Fairview			1						
Como	East and west line of Rice						2			
Como	South line of Thomas on H		1							
Como	East line of Claghorn on H		1							
Como	South line of Lafond on H		1							
Como	East and west line of Gaultier, M. and H		1				1			
Como	East line of Eifelt on H		1							
Como	North line of VanBuren on H		1							
Como	North line of Minnehaha on H		1							
Como	West line of Virginia on H		1							
Como	East and west line of Western, M. and H		1				2			
Como	South line of Atwater B. O			1						
Como	South line of Topping						1			
Como	East line of Dale						1			
Cherry	East line of Hoffman			1						
Cook	East and west line of Arcade			2						
Cook	West line of Greenbrier			1						
Cook	East line of Edgerton			1						
Cook	East and west line of McMenemy			2						
Cook	East line of Rice			1						
Case	East and west line of Arcade				2					
Case	West line of Greenbrier				1					
Case	East and west line of Edgerton				2					
Case	West line of DeSoto				1					
Case	West line of McMenemy			1						

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3 Inch.	4-Inch.	6 Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch	30-Inch.	36-Inch.
Claghorn	South line of Lake			1						
Cromwell	North and south line of Pym			2						
Cudworth	Head of Atty on H			1						
Cudworth	South line of Langford					1				
Clark	North line of Whital			1						
Clark	South line of Case			1						
Cross	East line of Lexington			1						
County road	South line of Dooley on H			1						
Crocus pl.	South line of Goodrich		1							
Crocus pl.	South line of Fairmount		1							
Chatsworth	North line of Evergreen			1						
Cleveland	South line of University					1				
Cleveland	South line of Myrtle on H			1						
Cleveland	300 feet north of Mil. Ry. on H			1						
Cleveland	South line of Gilbert on H			1						
Cleveland	North line of St. Anthony					1				
Cleveland	Head of Rondo on H			1						
Cleveland	South line of Marshall				1					
Cleveland	South line of Laurel				1					
Cleveland	North and south line of Summit				2					
Cortland	North and south line of Sycamore			1		1				
Cortland	North line of Agate on H			1						
Cortland	North line of York on H			1						
Cortland	North line of Poplar on H			1						
Cortland	North line of Case on M. & H			1		1				
Cortland	North line of Jenks on H			1						
Cortland	North line of Lawson on H			1						
Cortland	At Cook on H			1						
Cortland	North line of Magnolia on H			1						
Cortland	North line of Jessemine on H			1						
Cortland	North line of Geranium on H			1						
Cortland	North line of Rose on H			1						
Cortland	South line of Maryland on H			1						
Carter	East line of Gordon			1						
Cayuga	West line of Mississippi			1						
Cayuga	East line of Agate			1						
Cayuga	East line of Cortland			1						
Chelton	West line of Tatum			1						
Churchill	North line of Front		1							
Dale	South line of Goodrich				1					
Dale	North and south line of Summit				1	1				
Dale	B. O. at Grand	1								
Dale	At Ashland B. O.	1								
Dale	North and south line of Marshall					2				
Dale	North and south line of University		1			1		1		
Dale	North line of Lafond		1							
Dale	North line of Minnehaha, M. & B. O.			1				1		
Dale	South of Ireland		1							
Dale	In Great Northern R. R. yard on H			1						
Dale	North line of G. N. Ry		1							
Dale	North and south line of Front, M. & B. O.		1	1				2		
Dale	B. O. at Nigger Lake			1						
Dale	North line of Como and Phalen avenue							1		
Dale	B. O. at German Luth. Cemetery			1						
Dale	Approach to reservoir, M. & B. O.			2			2	1		
Dale	South line of McCarron, M. B. O. & B. W.	1		1			1			
Dayton	West line of Summit				1					
Dayton	East and west line of Western				2					
Dayton	East line of Mackubin				1					
Dayton	East and west line of Dale			1	1					
Dayton	East line of Grotto			1						
Dayton	West line of Avon			1						
Dayton	East and west line of Victoria			2						
Dayton	East line of Chatsworth			1						
Dayton	East and west line of Lexington			2						
Dayton	West line of Snelling			1						
Dayton	East line of Pierce			1						

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch	36-Inch.
Dayton	West line of Herschel			1						
Dayton	East line of Prior			1						
Dayton	East line of Moore			1						
Dayton	East line of Cleveland			1						
Duluth	North line of Seventh			1						
De Soto	Southline of York			1						
De Soto	North and south line of Case			2						
Dawson	East and west line of Mendota			2						
Dawson	East and west line of Earl			2						
Dooley	East line of County road			1						
Earl	South line of Pacific				1					
Earl	North line of Beech				1					
Earl	North and south line of Seventh				1	1				
Earl	North and south line of Case					2				
Edmund	West line of Rice			1						
Edmund	West line of Gaultier			1						
Edmund	East and west line of Western			2						
Edmund	East line of Mackubin			1						
Edmund	East and west line of Dale			2						
Edmund	East line of Grotto			1						
Edmund	East and west line of Victoria			2						
Eichenwald	South line of Seventh			1						
Euclid	West line of Cypress			1						
Euclid	East and west line of Mendota			2						
Elfelt	North line of Charles		1							
Elfelt	North line of Thomas		1							
Elfelt	North line of Lafond		1							
Edgerton	North and south line of Case				2					
Edgerton	South line of Magnolia				1					
Everett c'rt.	South line of Wheeler			1						
Evergreen	West line of Victoria			1						
Farrington	North line of Summit			1						
Farrington	North line of Laurel			1						
Farrington	North and south line of Dayton			2						
Farrington	North line of Nelson			1						
Farrington	South line of Carroll			1						
Farrington	South line of Rondo			1						
Farrington	North line of Sherburne			1						
Farrington	North line of Thomas			1						
Fauquier	West line of Duluth			1						
Fauquier	East and west line of Earl			2						
Fauquier	North and south line of Seventh			2						
Fauquier	East and west line of Arcade			2						
Fuller	West line of Rice			1						
Fuller	East line of Louis			1						
Fuller	West line of Farrington			1						
Fuller	East and west line of Western			2						
Fuller	East line of Mackubin			1						
Fuller	East and west line of Dale			2						
Fuller	West line of Victoria			1						
Fuller	East line of Chatsworth			1						
Fifth	East and west line of Bates			2						
Floral	South line of Summit		1							
Fourth	East and west line of Mendota			2						
Fourth	East line of Maple			1						
Fourth	East and west line of Bates			2						
Francis	West line of Mendota			1						
Front	East and west line of Rice			1	1					
Front	East line of Gaultier				1					
Front	East and west line of Western				2					
Front	East line of Mackubin				1					
Front	East and west line of Dale st. main				2					
Front	East line of Grotto				1					
Front	East and west line of Victoria				2					
Front	East line of Chatsworth				1					
Front	East line of Lexington				1					
Forrest	North line of Conway			1						
Forrest	North line of Third			1						
Forrest	North line of Freemont			1						
Forrest	North line of Fourth			1						

LOCATION OF VALVES—HIGH SERVICE—Continued.

Street.	Location	3 inch	4 inch	6 inch	12 inch	16 inch	20 inch	24 inch	30 inch	36 inch
Holly	East line of Mackubin			1						
Holly	East and west line of Dale			2						
Holly	East line of Grotto			1						
Holly	East line of Victoria			1						
Hague	West line of Dale			1						
Hague	East line of Grotto			1						
Hague	West line of Avon			1						
Hague	East and west line of Victoria			2						
Hague	East line of Chatsworth			1						
Hudson	East line of Mendota			1						
Hudson	East and west line of Bates			2						
Hastings	East and west line of Earl				2					
Hastings	East line of Fraser				1					
Hastings	West line of Maple				1					
Hastings	West line of Mound				1					
Hewitt	East and west line of Hamline			2						
Hewitt	West line of Snelson			1						
Hewitt	West line of Horton			1						
Hewitt	West line of Simpson			1						
Hewitt	East and west line of Snelling			2						
Hope	South line of Sixth			1						
Hope	South line of Seventh			1						
Hampden	East line of Raymond			1						
Harvester	East line of White Bear				1					
Hazel	South line of Ames				1					
Horton	North line of Van Slyke			1						
Iglehart	West line of Wabasha			1						
Iglehart	East and west line of Rice			2						
Iglehart	West line of Summit Place			1						
Iglehart	West line of Louis			1						
Iglehart	West line of Farrington			1						
Iglehart	East and west line of Western			2						
Iglehart	East line of Mackubin			1						
Iglehart	East and west line of Dale			2						
Iglehart	East line of Grotto			1						
Iglehart	West line of Avon			1						
Iglehart	East and west line of Victoria			2						
Iglehart	East line of Chatsworth			1						
Iglehart	East and west line of Prior			2						
Jackson	North line of University			1						
Jackson	South line of Valley			1						
Jackson	North and south line of Como				1	1				
Jackson	South line of Pennsylvania				1					
Jackson	South line of Sycamore				1					
Jay	South line of Martin			1						
Jay	South line of Fuller			1						
Jessamine	East and west line of Arcade			2						
Jessamine	West line of Greenbrier			1						
Jessamine	East and west line of Edgerton			2						
Jessamine	East line of Bradley			1						
Jessamine	West line of Burr			1						
Jessamine	West line of Clark			1						
Jessamine	West line of Arkwright			1						
Jessamine	East and west line of McMenemy			2						
Jessamine	East line of Rice			1						
Jessie	North line of Case			1						
Jessie	North line of Jenks			1						
Jessie	North line of Lawson			1						
Jessie	North line of Cook			1						
Jessie	North line of Magnolia			1						
Jessie	South line of Geranium			1						
Jessie	South line of Rose			1						
Jessie	South line of Maryland			1						
Jenks	West line of Arcade			1						
Jenks	West line of Greenbrier			1						
Jenks	East line of Edgerton			1						
Jenks	West line of De Soto			1						
Jenks	East line of McMenemy			1						
Kent	South line of Holly		1							
	South line of Ashland		1							

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch.	36-Inch.
Mackubin	North and south line of Dayton			2						
Mackubin	North line of Marshall			1						
Mackubin	North line of Iglehart			1						
Mackubin	North line of Carroll			1						
Mackubin	North line of Rondo			1						
Mackubin	North line of St. Anthony			1						
Mackubin	North line of Martin			1						
Mackubin	South line of Aurora			1						
Mackubin	North and south line of University			2						
Maple	South line of Hudson			1						
Maple	North line of Euclid			1						
Maple	North line of Conway			1						
Maple	South line of Fourth			1						
Maple	North line of Fifth			1						
Maple	South line of Seventh			1						
Margaret	East and west line of Earl			2						
Margaret	East line of Forrest			1						
Margaret	East and west line of Mendota			2						
Margaret	North and south line of Seventh			2						
Margaret	East line of Greenbrier			1						
Martin	East and west line of Rice			2						
Martin	West line of Louis			1						
Martin	West line of Farrington			1						
Martin	East and west line of Western			2						
Martin	East line of Mackubin			1						
Martin	East and west line of Dale			2						
Martin	West line of Victoria			1						
Maria	South line of McLean			1						
Maria	South line of Cherry			1						
Maria	North line of Plum			1						
Maria	North line of Hudson			1						
Maria	South line of Ravine			1						
Maria	North line of Conway			1						
Maria	South line of Fourth			1						
Maria	North line of Fifth			1						
Maria	North and south line of Seventh			2						
Marshall	West line of Western			1						
Marshall	East line of Mackubin			1						
Marshall	East and west line of Dale			1	1					
Marshall	West line of Grotto				1					
Marshall	East and west line of Victoria				2					
Marshall	East line of Chatsworth				1					
Marshall	East and west line of Fairview				2					
Marshall	East and west line of Prior				2					
Marshall	East and west line of Cleveland				2					
Mendota	North line of Hudson				1					
Mendota	B. O. at Euclid	1								
Mendota	South line of Fourth				1					
Mendota	North line of Margaret M and B. O.	1			1					
Mendota	North and south line of Seventh M. and B. O.	1		1	1					
Mendota	South line of Fauquier			1						
Mt. Airy	East line of Linden			1						
Mt. Airy	West line of Warren			1						
Maryland	West line of Greenbrier			1						
Maryland	East and west line of Edgerton			2						
Maryland	East and west line of Dale st. main				2					
Marion	North line of University			1						
Marion	North line of Sherburne			1						
Marion	North line of Charles			1						
Marion	North line of Edmund			1						
Marion	North line of Thomas			1						
Minnehaha	East and west line of Earl			2						
Minnehaha	North and south line of Seventh			2						
Minnehaha	West line of Arcade				1					
Minnehaha	East line of Greenbrier				1					
Minnehaha	West line of Dale				1					
Minnehaha	East line of Pascal				1					
Minnehaha	East line of Snelling				1					
Minnehaha	West line of Fairview				1					
Pound	North and south line of Burns			1	1					

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch.	36-Inch.
Rice	North and South line of Summit. M. & B. O.	1		1		1				
Rice	North line of St. Anthony					1				
Rice	North and South line of University. M. & H.		1			1	1			
Rice	North line of Sherburne on H.		1							
Rice	North line of Charles on H		1							
Rice	North line of Edmund. H. & B. O		2							
Rice	North and south line of Como				1		1			
Rice	North line of Van Buren				1					
Rice	North and south line of Sycamore				1	1				
Rice	Lyton place on H			1						
Rice	South line of Wayzata on H			1						
Rice	North and south line of Front					2				
Rice	North line of Hatch on H			1						
Rice	North line of Lawson on H			1						
Rice	North line of Cook on H			1						
Rice	North line of Oliver on H			1						
Robert	South line of Aurora			1						
Robert	North and south line of University			2						
Robert	North line of Valley			1						
Rondo	West line of Rice			1						
Rondo	East line of Louis			1						
Rondo	West line of Farrington			1						
Rondo	East and west line of Western			2						
Rondo	East line of Mackubin			1						
Rondo	East and west line of Dale			2						
Rondo	East line of Grotto			1						
Rondo	West line of Avon			1						
Rondo	East and west line of Victoria			2						
Rondo	East and west line of Prior			2						
Reaney	West line of Duluth			1						
Reaney	East and west line of Earl			2						
Reaney	North and south line of Seventh			2						
Reaney	East and west line of Arcade			2						
Ramsey	East line of Summit			1						
Ross	West line of Duluth			1						
Ross	East and west line of Earl			2						
Ross	South line of Seventh			1						
Ravoux	South line of St. Anthony		1							
Ravoux	South line of Fuller		1							
Ravine	East and west line of Bates		2							
Raymond	North line of University. M. and H.			1		1				
Raymond	South line of Territorial road on H			1						
Raymond	North line of Ellis on H			1						
Raymond	East line of Bayless			1						
Raymond	South line of Manvel			1						
Raymond	North and south line of Wheeler			2						
Raymond	South line of Atty			1						
Raymond	South line of Pratt			1						
Robbins	East line of Bayless			1						
Rose	West line of Arcade			1						
Rose	East line of Edgerton			1						
River	West line of Maria		1							
St. Anthony	West line of Rice			1						
St. Anthony	West line of Louis			1						
St. Anthony	West line of Farrington			1						
St. Anthony	East and west line of Western			2						
St. Anthony	East line of Mackubin			1						
St. Anthony	East and west line of Dale			2						
St. Anthony	East line of Grotto			1						
St. Anthony	West line of Avon			1						
St. Anthony	East and west line of Victoria			2						
St. Anthony	West line of Snelling			1						
St. Anthony	West line of Fry			1						
St. Anthony	West line of Aldine			1						
St. Anthony	West line of Wheeler			1						
St. Anthony	East and west line of Fairview			2						
St. Anthony	East and west line of Prior			2						
St. Anthony	East line of Cleveland			1						

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-inch.	4-inch.	6-inch.	12-inch.	16-inch.	20-inch.	24-inch.	30-inch.	36-inch.
St. Albans	North line of St. Anthony		1							
Sims	East and west line of Arcade			2						
Sims	West line of Greenbrier			1						
Sims	East line of Edgerton			1						
Short	West line of Maria			1						
Short	East line of Hoffman			1						
Snelling ave	At Goodrich on H			1						
Snelling ave	At Lincoln on H			1						
Snelling	South line of Grand on H			1						
Snelling	N'th and s'th line of Summit M & H			1		2				
Snelling	South line of Ashland on H			1						
Snelling	South line of Hague on H			1						
Snelling	South line of Selby on H			1						
Snelling	South line of Marshall, M & H			1		1				
Snelling	North line of Milwaukee Short Line					1				
Snelling	North line of Carroll on H			1						
Snelling	North line of St. Anthony on H			1						
Snelling	North line of Sheids on H			1						
Snelling	North and south line of University					2				
Snelling	At Edmund on H			1						
Snelling	At Blair on H			1						
Snelling	N'th and s. line of Minnehaha M & H			1		2				
Snelling	North line of Capitol on H			1						
Snelling	North line of Wesley on H			1						
Snelling	South line of Manitoba Ry. on H			1						
Simpson	South line of Wesley			1						
Simpson	South line of Hewitt			1						
Sixth	West line of Arcade			1						
Sixth	West line of Hope			1						
Sixth	West line of Maple			1						
Sixth	East and west line of Bates			2						
Sixth	West line of Maria			1						
Sidney	East line of Raymond			1						
Scudder	At Atty on H			1						
Scudder	South line of Langford					1				
St. Clair	West line of Victoria				1					
St. Clair	East line of Chatsworth				1					
Stinson	West line of Gaultier			1						
Sycamore	West line of Courtland				1					
Sycamore	East line of Sylvan				1					
Sycamore	East line of Rice				1					
Syndicate	South line of Summit			1						
Syndidate	South line Grand			1						
Stilwater	West line of White Bear			1						
Third	East and west line of Mendota			2						
Third	East line of Maple			1						
Third	East and west line of Bates			2						
Third	South line of Summit			1						
Third st. N.	North line of East Third			1						
Thirteenth	B. O. at Broadway north	1								
Tilton	East line of St. Peter			1						
Tilton	East line of Rice			1						
Thomas	West line of Como			1						
Thomas	West line of Gaultier			1						
Thomas	East line of Farrington			1						
Thomas	East and west line of Western			2						
Thomas	East line of Mackubin			1						
Thomas	East and west line of Dale			2						
Thomas	East line of Grotto			1						
Thomas	West line of Victoria			1						
Topping	West line of Como			1						
Topping	East line of Dale			1						
Taylor	West line of Pascal			1						
Taylor	West line of Simpson			1						
Taylor	East and west line of Snelling			2						
Territorial Road	West line of Raymond			1						
Territorial Road	East line of Cromwell			1						
Tatum	North line of Minnehaha			1						

LOCATION OF VALVES (HIGH SERVICE)—Continued.

Street.	Location.	3-Inch.	4-Inch.	6-Inch.	12-Inch.	16-Inch.	20-Inch.	24-Inch.	30-Inch	36-Inch.
Wabasha	North and south line of Central		1	1						
Western	South line of Holly, M. & B. O.	2			1					
Western	North and south line of Dayton				1	1				
Western	North line of Rondo, M. and B. O	1				1				
Western	North line of University					1				
Western	B. O. at Sherburne	1								
Western	North line of Lafond					1				
Western	South line of Como					1				
Waltham	East line of Prior		1							
Williams	West line of Olive			1						
Williams	East line of Mississippi, D. H. & L.			2						
Wilder	North line of Iglehart			1						
Wilder	North line of Carroll			1						
Wilder	South line of St. Anthony			1						
Whitall	East and west line of Edgerton			2						
Whitall	East line of Bradley			1						
Whitall	West line of Burr			1						
Walker	North line of Hewitt		1							
Wesley	West line of Pascal		1							
Wesley	West line of Snelling			1						
Workhouse	West line of Lexington			1						
Wheeler st.	East line of Bayless				1					
Westmister.	South line of Case			1						
Wheeler ave	South line of University			1						
Woodbridge	South line of Front			1						
Winnipeg	East line of Rice			1						
White Bear.	North line of Seventh				1					
White Bear.	South line of Harvester				1					
Wells	West line of Greenbrier		1							
Wells	East line of Walsh		1							
Wells	West line of Arcade			1						
York	East and west line of Arcade			2						
York	West line of Greenbrier			1						
York	East and west line of Edgerton			2						
York	East line of Bradley			1						
York	East line of Clark			1						
York	East line of Cortland			1						
Total		23	103	821	126	65	29	8		2

Number of Valves laid this year 53
Total number of valves on high service 1177

INVENTORY OF STOCK AND TOOLS, DECEMBER 1, 1893.

12 feet 36 inch pipe.
120 feet 30 inch pipe.
72 feet 24 inch pipe.
706 feet 20 inch pipe.
740 feet 16 inch pipe.
224 feet 12 inch pipe.
673 feet 6 inch pipe.
1244 feet 4 inch pipe.
27 feet 3 inch pipe.
7 pieces 30 inch curvature pipe.
4 pieces 24 inch curvature pipe.
1 piece 20 inch curvature pipe.
3 pieces 16 inch curvature pipe.
8 pieces 12 inch curvature pipe.
25 pieces 6 inch curvature pipe.
16 pieces 4 inch curvature pipe.
4 pieces 6 inch quarter bends.
3 pieces 4 inch quarter bends.
1 36 inch sleeve.
1 30 inch sleeve.
3 24 inch sleeves.
2 20 inch sleeves.
5 16 inch sleeves.
6 12 inch sleeves.
26 6 inch sleeves.
9 4 inch sleeves.
1 30 inch open sleeve.
1 24 inch open sleeve.
1 20 inch open sleeve.
2 16 inch open sleeves.
1 12 inch open sleeve.
5 6 inch open sleeves.
1 4 inch open sleeve.
2 24 inch plugs.
5 20 inch plugs.
2 16 inch plugs.
4 12 inch plugs.
44 6 inch plugs.
43 4 inch plugs.
1 30x6 4-way branch.
1 24x6 4-way branch.
2 24x4 3-way branch.
1 16x16 4-way branch.
1 16x12 4-way branch.
1 16x12 3-way branch.
5 16x6 4-way branch.
1 16x3 3-way branch.
1 12x6 4-way branch.
3 12x6 3-way branch.
2 12x4 3-way branch.
1 12x3 3-way branch.
28 6x6 4-way branch.
14 6x4 4-way branch.
3 6x4 3-way branch.
6 6x3 3-way branch.
4 4x4 4-way branch.
1 4x4 3-way branch.
1 24x20 "Y."
1 20x20 "Y."
1 20x16 "Y."
1 reducer from 20 to 12 inch.
3 reducers from 16 to 12 inch.
1 reducer from 12 to 6 inch.
9 reducers from 6 to 4 inch.
2341 pounds of pig lead.
990 pounds of hemp packing.
1 can of blasting powder.
100 feet of fuse.

GATES AND GATE DUPLICATES.

1 20 inch gate.
3 16 inch gates.
1 12 inch gate.
26 6 inch gates.
5 4 inch gates.
1 2½ inch gate.
12 3 inch gates
3 2 inch stop and waste valves.
10 2 inch valves.
13 1½ inch stop and waste valves.
6 1¼ inch stop and waste valves.
3 1¼ inch valves.
12 gate wrenches.
36 iron gate boxes (complete).
Miscellaneous lot of gate duplicates.

HYDRANTS.

4 D Mathew hydrants.
13 S Mathew hydrants.
1 S Mathew hydrant without casing.
1 casing for D hydrant.
1 rod for sprinkling pipe.
23 hydrant wrenches.
2 boilers for thawing hydrants.
1 kit of tools for repairing hydrants.
Miscellaneous lot of hydrant duplicates.

PIPE-LAYING TOOLS.

5 tool boxes.
7 lead ladles.
6 lead pots.
7 lead furnaces.
4 derricks.
2 Bagnall & Land diaphragm pumps.
75 shovels.
70 picks.
13 sledge hammers.
6 striking hammers.
8 crowbars.
12 rock drills.
2 plug and feather drills.
9 blasting chains.
80 blasting timbers.
7 set caulking tools.
1 pipe cutting machine.
4 spirit levels.
7 dirt rammers.
7 saws.
5 axes.

CONNECTION STOCK AND TOOLS.

400 feet ¾ to 2 inch galvanized pipe.
2 scales.
1 lot of pipe fittings from ½ to 2 inch.
26122 pounds ⅝ to 1½ inch lead pipe (extra strong).
1 kit plumbing tools (complete).
3 Mueller tapping machines (complete).
330 Bingham & Morgan stop boxes.
107 Chicago Malleable Iron Works stop boxes.
744 corporation cocks from ¾ to 1 inch.
524 stop and waste cocks.
400 pounds of solder.

INVENTORY OF STOCK AND TOOLS—Continued.

12 stop-cock rods for turning on and shutting off water.
4 valve rods for turning on and shutting off water.

STABLE AND MISC'LANEOUS ACC'T.

4 horses.
1 large truck for hauling from 20 to 36 inch pipe.
1 light truck.
2 light wagons.
2 buggies.
1 light bob-sleigh.
3 cutters.
5 sets single harness.
7 horse blankets.
16 pairs bedding blankets.
3 robes.
A quantity of feed for horses.
5 forks.
1 anvil.
20 jackscrews.
1 farmer's kettle.
1 box-wood stove.
21 pairs rubber boots.
36 lanterns.
250 pieces sheeting 8 feet long.
19 pieces 6x8, 16 feet long.
2 pieces 2x10, 16 feet long.
7 wheelbarrows.
1 grinding stone.
2 scythes.

MIDWAY STATION.

3 gate wrenches.

HYDRANTS.

1 S Mathew hydrant (for repair).
4 hydrant wrenches.
1 kit tools for repairing hydrants.
Miscellaneous lot of hydrant duplicates.

PIPE LAYING TOOLS.

1 tool box.
1 lead ladle.
1 lead pot.
1 lead furnace.
3 derricks.
15 shovels.
30 picks.
2 sledge hammers.
1 striking hammer.
2 crowbars.
2 set caulking tools.
1 spirit level.
2 saws.
1 ax.

CONNECTION STOCK AND TOOLS.

100 feet ¾ inch galvanized iron pipe (old.)
1 platform scales.
1 kit of plumbing tools.
1 Mueller tapping machine.
3 stop boxes.
12 corporation cocks from ¾ to 1 inch.
15 stop and waste cocks.
8 stop cock rods for turning on and shutting off water.
1 valve rod for turning on and shutting off water.

STABLE AND MISCELLANEOUS AC'T.

1 horse.
1 large truck for hauling from 12 to 20 inch pipe.
1 light truck.
1 two-wheel cart.
1 light bob-sleigh.
1 set single harness.
1 horse blanket.
A quantity of feed for horse.
1 fork.
3 pairs rubber boots.
5 lanterns.
1 wheelborrow.
1 grinding stone.
1 scythe.
1 sod cutter.

RESERVOIR.

1 small table.
5 chairs.
1 carpet (7x8½ feet).
1 small coal stove.
15 storm sashes.
10 window screens.
2 lawn mowers.
2 sections of 2 inch hose.
2 water buckets.
2 gate wrenches.
2 valve rods.
2 picks.
11 shovels.
1 scythe.
1 hand sickle.
1 garden rake.
1 fork.
1 grinding stone.
1 plow.
1 steel broom.
60 feet ½ inch rope.
1 box whetstones.

CITY ENGINEER'S OFFICE.

St. Paul, Minn., Nov. 30th, 1893.

To the Board of Water Commissioners:

Gentlemen: I submit herewith the following report of engineering work for the Water Department for the year ending November 30th, 1893.

Surveys were made and levels run during the month of January to secure information for an additional water supply. Starting from Pleasant Lake, a line was run to Taylor's Falls and the St. Croix River by way of Forrest Lake and the Chisago Lakes, a total distance of twenty-six miles. In connection with this work a line was run from Forrest Lake to Rice Lake and soundings taken of these lakes; also another line from Hardwood Creek to Big Lake to ascertain if this lake could be connected with our present system, but as this work will be made the subject of a separate report no detailed statement will be given at this time.

On June 1st a test was made of the boiler and pumping engine of the West Side Station, the result of which is herewith submitted and made a part of this report for permanent record.

June 7th, 1893.

To the Board of Water Commissioners:

Gentlemen: I send enclosed the report of A. Munster, Assistant Engineer, who I placed in charge on the part of the City of the boiler test at the West Side Pumping Station, which was made on the 1st inst. From this report you will see that the equivalent water evaporated from a pound of combustible from and at 212 degrees, in accordance with the terms of the specifications, was 10.051 pounds, which was slightly in excess of the requirements. I would therefore recommend that the boiler be accepted and the contractor allowed his final estimate.

At the previous test, made February 3, 1893, the pump was found to fulfil all the requirements of the specifications. I, therefore, recommend that the plant be accepted and final estimate allowed.

Yours very truly,

L. W. Rundlett,
City Engineer.

June 5th, 1893.

Mr. L. W. Rundlett, City Engineer:

Dear Sir: In accordance with your instructions, I was present on June 1st, 1893, at the trial of the 60 H. P. water-tubular boiler at the West St. Paul Pumping Station and took the necessary observations to determine the efficiency of the boiler. The following is a report of the test:

service on the West Side. The figures for this latter service for the months of January, February and March do not show the amount of water consumed, as the plant had just been completed, and the water was wasted to get circulation and prevent freezing.

DAILY AVERAGE AMOUNT OF WATER USED FROM THE VADNAIS LAKE SYSTEM IN 1893.

MONTH	FROM VADNAIS LAKE.	HIGH SERVICE.	LOW SERVICE.	W. ST. PAUL H. SERVICE.
1892.				
December	6,107,800	2,691,200	.....	.....
1893.				
January	5,802,000	2,943,000	2,804,000	54,680
February	6,316,500	3,230,000	3,020,500	65,540
March	6,572,000	3,151,000	3,397,000	23,214
April	6,145,000	2,979,000	3,158,500	6,497
May	6,863,000	3,061,600	3,765,600	15,980
June	9,561,000	4,672,500	4,942,500	12,736
July	9,769,000	4,702,000	5,024,000	83,510
August	9,081,500	4,854,500	4,188,500	38,500
September	8,472,000	4,069,400	4,381,000	25,900
October	6,632,000	3,154,300	3,467,000	10,791
November	6,367,400	3,150,700	3,210,000	6,668

New indicators for reading the weir measurements and indicators from which accurate records of the gate openings can be made have been placed in the Vadnais lake gate-chamber.

At the McCarron lake pumping station, twice each month an hourly record is made of the amount of water pumped on the high service. These results will be tabulated and will form a record for future reference in determining the size of distributing mains and the requirements of pumping plant.

Measurements have been made from time to time of the amount of water running into Rice lakes and also the discharge of Baldwin lake.

Considerable time has been spent by the engineering department in furnishing data for the legal department in connection with the recent suits with the St. Anthony Falls Water Power Company.

RAINFALL.

The total amount of rainfall for the year ending November 30th, 1893, has been 24.13 inches, or about 3 inches below the normal, as shown in the following table:

RAINFALL FOR YEAR, DECEMBER 1, 1892, TO NOVEMBER 30, 1893.

December	0.58 inches
January	0.73 "
February	1.87 "
March	1.96 "
April	5.30 "
May	2.66 "
June	2.00 "
July	1.68 "
August	2.40 "
September	2.70 "

Under the following conditions:

Length 20 inch main to reservoir, 7840 feet.

Average per day pumped, 3,556,760 gallons.

Velocity from above quantity in 20 inch main, 225,27.

Frictional head in slightly tuberculated pipe from above velocity, 11.29 feet.

Center of gauge, engine, to zero gauge, reservoir, 114.47.

Average suction below center of gauge, 0.75.

Average water level above zero gauge, 18.75.

Total head on pump, 146.26 pounds.

145.26x1,298,551,000 gallons—188,627,518,260 gallons raised one foot.

AVERAGE DUTY FOR SIX MILLION GALLON PUMPING ENGINE FOR 1893.

630x8.338 lb x145.256x100—76,316,631.

Average duty for engine No. 1 and 2, 1890. }
" " " " " " 1891. } 59,092,000.
" " " " " " 1892. }

under supposition of pumps working against same head of water as above.

PUMPING PLANT AT BALDWIN LAKE, 1893.

Total number of gallons pumped	1,104,158,600
Lift	26.429 feet
Million gallons lifted one foot	29,181.8 mill

COST OF PUMPING.

		Cost of Raising one Million Gals. 1 foot
Plant, $40,000 @ 6 per cent	$2,400.00	$0.082240
Salaries for 1893	1,145.66	0.039255
Fuel for 1893	1,210.00	0.041464
Waste, oil and repairs	419.52	0.013725
Total	$5,175.18	$0.1773310

ATTORNEY'S REPORT.

St. Paul, Minn., December 8th, 1893.

To the Board of Water Commissioners:

Gentlemen: Pursuant to your request for a report from this department as to the litigation in which the Board of Water Commissioners has been interested during the past year, I have the honor to say as follows:

There have been two actions brought against the Board, both being commenced and prosecuted in Hennepin county, Minnesota. One entitled "The Minneapolis Mill Co. vs. The Board of Water Commissioners," and the other entitled "The St. Anthony Falls Water Power Company, vs. The Board of Water Commissioners of the City of St. Paul." They were both based upon the same cause of action; were tried at the same time with the same result. The alleged cause of the action on the part of the plaintiff was the diversion by the Board of Water Commissioners of water from Baldwin lake by means of the pumping station and water conduits described in your reports; the plaintiffs claiming that the pumping of water from said lake reduced the flow in the Mississippi River, thereby depriving them of the power which the water would otherwise have given them at the Falls of St. Anthony. The plaintiffs who were located upon the banks of the Mississippi River at said falls, claimed that they had erected dams and mill machinery so as to avail themselves of the full power of the water flowing in the Mississippi River at that point, and that they were injured to just the extent that the city used the water from Baldwin lake which connected with the Mississippi River by means of Rice creek.

The plaintiffs asked that defendant be enjoined from further use of said water, and that the plaintiffs have judgment for damages for water already diverted for the use of the City of St. Paul, which damages up to the time of bringing the actions were claimed to amount to $4,500.00. The case was brought on for trial before Judge Canty and a jury in Hennepin county. Upon motion of the counsel for defendants the pleadings were amended and thereupon the jury was excused. The case was on trial for three days, and at the end of which time the court upon motion of defendants dismissed the actions.

It is unnecessary for me to review the legal grounds upon which the motion and the action of the court were based. The plaintiffs have taken an appeal to the Supreme Court, and the cases are set for argument for December 20th, 1893. The following records of the proceedings, together with the brief of the plaintiffs and of your Attorneys have been presented to you, and are filed in your office. The importance of the actions depends not so much upon the amount of damages asked for prior injuries as upon the fact that if

plaintiffs succeed in their claims the city must either discontinue the use of the water from Baldwin lake or pay an annual tribute to the plaintiffs.

In the trial of this action the undersigned was very ably assisted by Walter L. Chapin Esq., Assistant Corporation Attorney. I also wish to state that Mr. L. W. Rundlett, City Engineer, and his assistants were very diligent in their work for the defendant, furnishing us with valuable reports made by them in their official duties, and rendering us other assistance as experts in the case.

The case was of so much importance and interest to your Board that President Bement and Secretary Caulfield were present almost constantly during the trial, and Hon. P. H. Kelly and Mr. J. F. Hoyt, other members of your Board were also present a portion of the time. The suggestions and personal interest of these gentlemen assisted your counsel in no small degree in their efforts in the court named.

There have been other cases brought against the city in which the Board has been interested, but to which it was not a party, and the results of those cases will appear in my regular report of the proceeings of this department. I may be premitted to say, however, that so far those cases have resulted favorably to the city. A number of written opinions have been rendered to your Board by this department upon various questions which are on file in your office, and which it is unnecessary for me to review.

Respectfully submitted,

LEON T. CHAMBERLAIN,
Corporation Attorney.

CHIEF ENGINEER'S REPORT.

ST. PAUL, December 1, 1893.

To the Honorable Board of Water Commissioners.

GENTLEMEN: I submit herewith the Ninth Annual Report containing a complete record of the operation of the three pumping stations for the year ending November 30th, 1893.

McCarron Lake Pumping Station has been in continual operation during the year, and has not required any repairs during the year 1893.

West Side Station started the 7th of December, 1892, and the entire works are in good condition and have given good satisfaction during the year.

Baldwin Lake Station pumps have given a good deal of trouble; we have to shut down every day and put in from 9 to 12 new springs. I have had a set of new bolts and springs made which have given better satisfaction. The water plunger has cut down a fourth of an inch, and there will have to be a new plunger put in.

The following tabulated record shows the operation of the three pumping stations:

MCCARRON LAKE PUMPING STATION.

Total gallons pumped	1,298,551,200
Daily average	3,557,674
Total pounds of coal used	2,147,888
Daily average of coal used	5,884

Increase from 1892 to 1893, 623,070 gallons daily.

WEST SIDE STATION.

Total gallons pumped	10,015,722
Daily average	27,440
Total pounds of coal used	209,043
Daily average of coal used	571

BALDWIN LAKE STATION.

Total gallons pumped	1,104,158,600
Daily average	9,219,623
Total cords of wood used	461¼

Respectfully submitted,

MARTIN FEIST,
Chief Engineer.

ST. PAUL WATER WORKS PUMPING STATION, WEST SIDE.

ENGINEER'S REPORT, FOR YEAR ENDING NOV. 30, 1893.

Month	No. Hours Pumped	Total Number of Revolutions	Total Number Gallons Pumped	Total Pounds of Coal Used	Average Coal Used per Day	Average per Day Pumped	Water Pressure
December, 1892	27.30	67,859	1,221,462	195,281	631	39,402	91 lb
January, 1893	35.30	94,175	1,695,150	22,618	730	54,676	"
February, 1893	45.7	101,950	1,835,100	22,779	813	65,539	"
March, 1893	16.18	39,992	719,856	15,975	515	23,214	"
April, 1893	4.10	10,828	194,904	9,654	321	6,496	"
May, 1893	10.50	27,523	495,414	30,845	995	15,981	"
June, 1893	8.30	21,229	382,122	17,839	594	12,734	"
July, 1893	23.19	57,768	1,039,824	15,070	486	33,542	"
August, 1893	27.1	62,263	1,192,774	15,986	515	38,477	"
September, 1893	16.34	43,126	776,268	14,250	475	25,875	"
October, 1893	7.29	18,585	334,530	12,170	392	10,791	"
November, 1893	4.28	11,114	200,052	12,275	409	6,668	"
Total	226.3	556,429	10,015,722	209,043	571	27,440	91 lb

Total gallons pumped, 10,015,722.
Daily average, 27,440.
Total pounds of coal used, 209,043.
Daily average, 571.

INVENTORY OF TOOLS AND STOCK AT LAKE McCARRON.

1 vise.
1 set screw dies ¼ to 7 inch and taps.
1 set screw dies 1 to 2 inch and taps.
2 pipe cutters.
1 pair pipe tongs.
1 24 inch pipe wrench.
1 12 inch pipe wrench.
1 20 inch Coe wrench.
1 14 inch Coe wrench.
1 8 inch Coe wrench.
1 portable blacksmith forge.
1 anvil.
1 sledge hammer.
2 hand hammers.
1 soft hammer.
6 files.
2 saws.
1 ax.
1 hatchet.
1 1½ ton chain block.
1 3 ton chain block.
100 ft of 1¼ inch rubber hose.
3 oil tanks.
2 2 quart oil cans.
2 3 quart oil cans.
4 hand oilers.
1 quart measure.
1 12 inch level.
1 steel coal wheel-barrow.
2 coal scoops.
1 Fairbanks' 6 ton scale.
1 Fairbanks' 1000 pound scale.
1 grindstone.
3 large lanterns.
4 small lanterns.
1 clock.
1 writing desk.
1 square.
2 chairs.
3 ladders.
2 step ladders.
1 good cupboard.
1 oil and waste cupboard.
1 work bench.
6 cuspidors.
1 ratchet, brace and bit.
4 jack screws.
75 ft. ¾ inch rope and block.
1 draw knife.
1 plane.
6 chisels.
1 Edison's recording gauge.
1 Thompson improved indicator.
1 lot of old pipe fittings.
1 gate wrench.
3 steel brooms.
1 pair rubber boots.
1 set screws, dies and top from ¼ to 1 inch
25 pounds waste.
15 pounds tallow.
10 pounds hemp packing.
5 pounds piston rod packing.
5 pounds piston rod packing.
30 gallons engine oil.
25 gallons cylinder oil.
30 gallons kerosene oil.
15 pounds polishing paste.
120 ton Yough. coal.
1 cord slabs.
100 pounds blacksmith coal.
25 bars Babbit soap.
10 cans granulated lye.
1 stove at terminal chamber.
6 brooms.
1 water pail.
1 Concord buggy,

INVENTORY OF TOOLS AND STOCK AT BALDWIN LAKE.

1 vise.
1 pair pipe tongs.
1 24-inch pipe wrench.
1 12-inch pipe wrench.
1 24-inch Coe's wrench.
1 14-inch Coe's wrench.
1 6-inch Coe's wrench.
1 hand hammer.
1 coal hammer.
2 saws.
1 hatchet.
1 ax.
3 oil tanks.
2 1-quart oil cans.
1 1-quart measure.
1 steel coal wheel-barrow.
1 wood wheel-barrow.
2 coal scoops.
1 grindstone.
3 large lanterns.
3 small lanterns.
2 bracket lamps.
1 clock.
1 draw knife.
2 ice chisels.
1 pair ice tongs.
1 ice scoop.
1 ratchet, brace and bit.
1 chain.
1 3½-inch steamflue cleaner.
1 4-inch hand flue cleaner.
50 feet rubber hose.
1 pair rubber boots.
1 ¾-inch auger.
1 2-inch auger.
2 crowbars.
40 gallons cylinder oil.
20 gallons kerosene oil.
5 gallons engine oil.
15 pounds of waste.
5 pounds of hemp packing.
10 pounds of piston rod packing.
5 pounds rubber packing.
250 cords wood.
40 tons Yough. coal.
1 10-inch centrifical pump.
1 piece 6 ft. 10 inch suction pipe.
2 pieces 5 ft. long of 10 inch discharge pipe.
2 10-inch Ells.
1 1¼ inch hand force pump.
2 brushes for cleaning screens.
Lot of 12-inch timber from old engine foundation.
6 chisels.
4 files.
2 pieces caulking tools.

INVENTORY OF STOCK AND TOOLS AT WEST SIDE STATION.

1 24 inch pipe wrench.
1 14 inch Coe's wrench.
1 hand saw.
1 ax.
1 hatchet.
3 oil tanks.
1 1000 pound Fairbanks' scale.
1 vise.
2 coal shovels.
1 work bench.
1 wardrobe.
1 clock.
3 large lanterns.
1 writing desk.
2 chairs.
1 gate wrench.
1 steel wheelbarrow.
1 cuspidor.
1 step ladder.
1 set engineer's five pieces brass hand oilers.
2 ½ gallon measures.
1 ⅛ gallon measure.
2 hand oilers.
1 set wrenches for pump.
1 set fire tools.
75 feet of 1 inch hose.
25 feet of ¾ inch steam hose.
7 tons Yough. coal.
½ cord slabs.
45 gallons cylinder oil.
15 gallons kerosene oil.
48 gallons engine oil.
1 flue scraper.

INVENTORY OF STOCK AND TOOLS AT VADNAIS LAKE NOV. 30, '93.

AT THE GATE HOUSE.

4 storm windows.
4 window screens.
2 brooms.
1 steel broom.
1 shovel.
1 pail.
1 ice chisel.
1 ice saw.
8 steel traps.
1 gate wrench.
1 Yale lock and 2 keys.
1 boat chain.
1 row boat.
1 pair of oars.
1 pair rubber boots.

AT DWELLING HOUSE.

15 storm windows.
15 window screens.
3 screen doors.
12 window shades.
1 thermometer.
1 hand pump.
1 kalsomine brush.

AT PUMPING STATION.

2 monkey wrenches.
2 S wrenches.
1 T wrench.
1 combination wrench.
2 cold chisels.
2 hammers.
1 spirit level.
1 hand saw.
3 oil cans.
2 5 gallon oil cans.
1 50 gallon kerosene oil tank.
1 steam flue cleaner.
1 3 inch steel flue cleaner.
2 gallons cylinder oil.
2 gallons machine oil.
15 tons of coal.
2 8 inch iron flanges.
3 8 inch cast iron elbows.
50 feet of 4 inch wrought iron pipe.
145 feet of 8 inch wrought iron pipe.
18 ft of 6 inch wrought iron pipe.
1 6 inch 12 feet strainer.
1 gum packer.
1 6 inch spreader.
1 pick.
1 shovel.
4 files.
2 hand lanterns.
2 large globe lanterns.
3 paint brushes.
50 feet 1 inch rubber hose.
25 feet ¾ inch steam hose.

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